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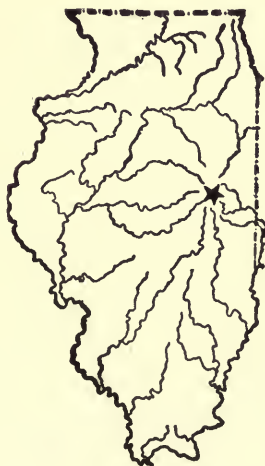
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UNIVERSITY OF ILLINOIS
Agricultural Experiment Station

BULLETIN No. 219

ILLINOIS CROP YIELDS FROM SOIL
EXPERIMENT FIELDS

By CYRIL G. HOPKINS, F. W. GARRETT, J. E. WHITCHURCH,
AND H. F. T. FAHRNKOPF



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ILLINOIS CROP YIELDS FROM SOIL EXPERIMENT FIELDS

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AND H. F. T. FAHRNKOPF

INTRODUCTION

Herein are reported the detailed results from thirty-eight Illinois soil experiment fields¹ up to and including those of 1917. A number of these fields were established in the summer and fall of 1901 and the others have been put into operation at various times since then, some being only a few years old. The Morrow plots at the University have been in operation since 1879, and so far as is known are the oldest experimental plots in America.

Most of these experiment fields contain about 20 acres each, a few contain from 25 to 40 acres, and a few have less than 10 acres. Each field is divided into series which correspond to the different fields upon a farm, and upon which is grown a definite rotation of crops. Each series is further divided into smaller areas, usually into ten fifth-acre plots. The individual plots are treated in such a manner that positive information can be secured in regard to the needs of the soil. Untreated plots are retained as checks in order to determine the effect of every kind of soil treatment applied.

SYSTEMS OF FARMING

On most of the experiment fields are conducted both a live-stock and a grain system of farming.

Under the live-stock system of management, the nitrogen and organic matter of the soil are maintained by applying as much manure as can be made from the produce grown upon the land. On this basis no more manure is applied to a plot than can be made from the produce of that plot. For every ton of produce grown, an equivalent amount of average farm manure is returned during the rotation. Under a good system of live-stock farming it has been found that about one ton of average manure can be made from one ton of feed and bedding. A large amount of the grain produced is fed, in the live-stock system, the legumes harvested as hay, and the hay, straws, and stovers used for feeding and bedding purposes.

In the grain system of farming, no manure is applied to the land. The nitrogen and organic matter of the soil are maintained by plowing under all crop residues (straws, corn stalks, all of the legume

¹For more detailed information concerning these fields, see Bulletin 193.

crops from which the seed has been removed, and also cover crops of legumes). The regular legume crops are so managed that a seed crop is secured if possible, and all resulting residues are returned to the soil. Sometimes the first crop of red clover or sweet clover is clipped and the clippings left upon the land; the second crop is then harvested for seed and the chaff returned to the land. The first growth of mammoth clover is rolled down so that most of it is left on the land when the seed crop is harvested. Sometimes seed is saved from both the first and the second cuttings of red clover, or the first crop may be allowed to stand and be harvested with the second growth. Alsike is also grown and is harvested for hay in the live-stock system and for seed in the grain system. When alfalfa is included in the rotation, it is harvested for hay in both systems. The first cutting of red clover or of sweet clover may sometimes be made into hay in the grain system, as well as in the live-stock system, especially after the soil becomes rich in organic matter. The residues from the grain and legume crops may be plowed under directly, or they may be used as a top-dressing for the protection of winter crops and eventually plowed under.

ROTATIONS

On the Illinois soil experiment fields crops are grown in definite rotations. On some fields two or more rotations are being tried. There are usually series enough so that all the rotation crops are represented every year. The crops grown are those common to the locality and include wheat, corn, barley, rye, red clover, mammoth clover, alsike, sweet clover, alfalfa, cowpeas, soybeans, vetch, timothy, potatoes, and cotton.

Standard Rotation.—On a large number of the fields a standard four-year rotation is practiced. This is the famous Norfolk rotation of Europe in which a cultivated crop is followed by a spring grain, the spring grain by a legume, and the legume by a winter grain. Such a rotation permits the seeding of a cover crop of legumes in the winter grain, which may be plowed down the next spring before the cultivated crop is planted. The rotation as commonly practiced on the Illinois fields is corn, oats, clover, and wheat, a cover crop (usually sweet clover) being seeded on the young wheat in the spring and plowed under in the fall or the next spring before the corn is planted. In the event of clover failure, soybeans are substituted. The seeding of a legume cover crop in the wheat is commonly made, however, only on the plots representing the grain system of farming, these and other crop residues serving as a substitute for farm manure.

MATERIALS FOR SOIL TREATMENT

Altho there may be a number of ways of meeting the needs of the soil with respect to better production, the Illinois Agricultural Ex-

periment Station makes use largely of natural, home-grown materials. Instead of applying expensive complete fertilizers, which may produce a more-or-less rapid response, wide use is made of such natural materials as farm manure, legume crops, crop residues, ground limestone (both ordinary and dolomitic, each of which is found in abundance in Illinois), steamed bone meal (a farm product), and ground natural rock phosphate. Abundant information points to the fact that in the long run and under normal conditions the use of these materials in well-planned systems of farming usually proves to be most practical and economical. In some comparative experiments and on some abnormal soils, purchased nitrogen, manufactured acid phosphate, potassium salts, and other commercial fertilizers are used.

Standard Soil Treatment.—In connection with the standard four-year rotation mentioned above, a rather uniform system of soil treatment is practiced on most of the fields. Both the live-stock and the grain systems of farming, as already described, are followed. In each system on each series an untreated plot is left, which serves as a check for the systems of soil treatment applied. There are plots receiving only the application of manure and residues, as described; some which receive in addition pulverized limestone; some which receive as a further application finely ground raw rock phosphate; and as a still further application, in the grain system, one plot receives potash salts; besides which there is a third, or extra, untreated plot. The manner of applying and the amounts of the materials applied are as follows:

Manure.—The amount that can be made in farm practice from the produce of the land is usually applied for the corn crop.

Residues.—The straw, stalks, chaff, and cover crops that are produced upon the land are returned at the most convenient time during the rotation.

Limestone.—Four tons per acre is put on as an initial application, and thereafter two tons every four years, preferably after the land is plowed for wheat, the limestone being mixed with the surface soil in preparing the seed bed.

Phosphate.—One ton is applied on the clover sod preceding the plowing of the land for wheat. Disking in order to mix the phosphate with the soil before plowing is desirable. (After four or five rotations, the amount applied will be reduced to 800 pounds per acre every four years.)

Potash Salts.—The standard application is 800 pounds of kainit once during the rotation, usually with phosphate before the wheat.

EXPLANATION OF SYMBOLS USED

0=Untreated land

M=Manure

R=Residues

L=Limestone

P=Phosphorus (raw rock phosphate or steamed bone meal)

K=Kainit or other salt of potassium

N=Nitrogen (usual application 800 pounds dried blood)

Cv.=Cover crop (legumes)

(aP)=acid Phosphate

(bP)=Steamed bone meal (**P**hosphorus)

(sP)=slag Phosphate

(rP)=rock Phosphate

The heavy vertical rule indicates the beginning of full treatment.

TABLE 1.—ALEDO FIELD: CROP YIELDS IN SOIL EXPERIMENTS
BROWN SILT LOAM PRAIRIE; UPPER ILLINOISAN GLACIATION

Plot No.	Soil treatment applied	1910	1911	1912	1913	1914	1915	1916	1917
		Oats ⁵	Corn ¹	Oats ²	Clover ²	Wheat ³	Corn	Oats	Clover
Bushels or (tons) per acre									
101	0.....	60.2	69.3	49.2	(3.02)	27.0	52.8	51.9	(1.46)
102	M.....	37.5	68.1	38.1	(3.16)	29.2	67.7	62.5	(2.23)
103	ML....	60.6	67.6	40.8	(3.29)	31.8	67.9	65.8	(2.24)
104	MLP...	60.8	65.1	41.4	(3.55)	34.6	72.2	71.9	(2.38)
105	0.....	48.1	70.7	40.3	2.33	30.0	56.8	56.2	.50
106	R.....	55.0	64.6	40.6	2.42	30.6	58.3	52.5	.58
107	RL....	53.4	66.8	45.0	2.67	33.1	61.5	57.8	1.25
108	RLP...	46.1	69.2	46.9	1.92	36.1	69.1	60.0	1.75
109	RLPK..	61.4	65.8	43.1	2.50	32.7	63.1	62.8	1.33
110	0.....	53.1	67.1	45.2	(3.06)	26.8	55.6	58.1	(1.93)
		Soy-beans ⁵	Wheat ⁴	Corn	Oats	Clover	Wheat	Corn	Oats
201	0.....	10.7	14.5	69.7	46.4	(1.03)	34.4	40.9	67.3
202	M.....	11.0	14.7	78.8	43.4	(1.40)	40.8	50.9	68.3
203	ML....	15.3	12.3	78.2	45.8	(2.54)	49.2	60.0	73.8
204	MLP...	13.7	9.7	83.1	45.9	(2.59)	50.0	57.9	53.6
205	0.....	13.8	13.4	71.6	46.2	1.17	42.5	45.3	72.2
206	R.....	14.2	13.7	73.9	40.6	.83	49.6	50.4	83.1
207	RL....	12.8	9.1	78.8	37.8	.83	49.6	52.9	88.3
208	RLP...	10.8	14.4	84.5	41.7	.83	53.5	53.3	88.1
209	RLPK..	11.3	18.2	88.7	44.5	.17	50.4	52.6	92.3
210	0.....	11.7	15.0	80.5	45.5	(1.24)	39.6	48.7	75.5
		Oats ⁵	Soy-beans ¹	Wheat ³	Corn	Oats	Soy-beans	Wheat	Corn
301	0.....	64.1	15.7	11.5	45.8	42.2	(1.38)	10.2	40.5
302	M.....	58.6	17.1	12.6	44.2	51.6	(1.48)	22.2	55.5
303	ML....	64.7	15.9	11.7	51.0	52.3	(1.52)	15.8	64.4
304	MLP...	57.3	13.6	13.8	49.9	53.1	(1.59)	19.2	68.7
305	0.....	68.8	16.9	18.1	43.3	51.2	19.8	12.0	54.9
306	R.....	64.5	15.8	14.4	46.0	51.6	19.8	12.2	53.7
307	RL....	67.2	17.1	10.0	50.1	51.9	22.5	9.2	64.4
308	RLP...	55.9	13.3	10.8	48.8	55.2	24.0	12.8	68.6
309	RLPK..	66.7	13.2	13.3	50.5	52.5	24.8	16.2	70.1
310	0.....	53.6	15.0	9.0	44.8	45.8	(1.44)	13.7	55.6
		Corn ⁵	Oats ¹	Soy-beans ²	Wheat ³	Corn	Oats	Clover	Wheat
401	0.....	45.9	53.3	(1.41) ⁶	39.6	43.7	71.9	(3.26)	21.4
402	M.....	74.9	51.7	(1.41)	37.7	57.6	82.0	(3.63)	23.3
403	ML....	81.2	53.4	(1.41)	38.0	60.0	89.7	(3.90)	18.6
404	MLP...	82.1	51.6	(1.41)	37.7	62.9	93.4	(3.86)	19.4
405	0.....	80.9	39.7	16.4	38.2	38.7	73.4	.25	28.2
406	R.....	67.7	60.3	15.2	42.3	47.9	74.5	.33	26.9
407	RL....	67.4	62.8	14.6	38.8	48.3	83.6	.25	28.0
408	RLP...	71.7	62.5	16.4	40.0	48.4	81.2	.25	28.2
409	RLPK..	77.8	55.5	15.8	38.9	52.7	93.8	.18	22.7
410	0.....	67.1	52.3	14.5	34.7	40.7	58.3	(2.30)	20.8

¹Residues only. ²No manure, phosphate, or potassium. ³No manure. ⁴No manure or lime. ⁵No treatment. ⁶Estimated.

TABLE 3.—ANTIOCH FIELD: CROP YIELDS IN SOIL EXPERIMENTS
YELLOW-GRAY SILT LOAM, TIMBER SOIL; LATE WISCONSIN GLACIATION

Plot No.	Soil treatment applied ¹	1902		1903		1904		1905		1906		1907		1908		1909		1910		1911		1912		1913		1914		1915		1916		1917	
		Corn	Oats	Corn	Oats	Wheat	Corn	Oats	Corn	Oats	Wheat	Corn	Oats	Corn	Oats	Wheat	Corn	Oats	Wheat	Corn	Oats	Corn	Oats	Clover	Wheat	Corn	Oats	Clover	Wheat	Corn	Oats	Clover	
101	0.....	44.8	17.8	36.6	17.8	18.5	35.9	12.4	65.6	12.2	34.4	21.3	(.50)	30.8	.....	30.6	.....	30.8	.....	30.6	.....	30.6	.....	(.50)	30.8	.....	30.8	.....	30.6	.....	30.6	.....	.50
102	L.....	45.1	12.8	38.9	12.8	10.3	31.5	9.5	61.6	11.7	24.6	17.5	(.60)	30.0	.....	25.3	.....	30.0	.....	25.3	.....	25.3	.....	(.60)	30.0	.....	30.0	.....	25.3	.....	25.3	.....	.00
103	LN.....	46.3	2.8	40.8	2.8	17.8	37.8	6.4	60.3	13.0	10.4	24.4	.00 ²	40.8	.....	35.3	.....	40.8	.....	35.3	.....	35.3	.....	.00 ²	40.8	.....	40.8	.....	35.3	.....	35.3	.....	.67
104	LP.....	50.1	12.5	53.6	12.5	35.8	57.4	13.4	70.9	23.3	37.4	49.1	(1.32)	54.2	.....	45.9	.....	54.2	.....	45.9	.....	45.9	.....	(1.32)	54.2	.....	54.2	.....	45.9	.....	45.9	.....	.83
105	LK.....	48.2	9.7	50.2	9.7	21.7	34.9	12.9	62.5	13.5	20.4	18.8	(.72)	34.0	.....	28.8	.....	34.0	.....	28.8	.....	28.8	.....	(.72)	34.0	.....	34.0	.....	28.8	.....	28.8	.....	.42
106	LNP.....	56.6	62.7	62.7	15.9	15.2	59.3	20.9	49.1	33.8	37.0	46.9	.00 ²	41.3	.....	61.6	.....	41.3	.....	61.6	.....	61.6	.....	.00 ²	41.3	.....	41.3	.....	61.6	.....	61.6	.....	1.13
107	LNK.....	52.1	54.9	54.9	10.3	11.8	39.0	11.1	52.6	21.0	7.0	16.9	.00 ²	43.2	.....	31.9	.....	43.2	.....	31.9	.....	31.9	.....	.00 ²	43.2	.....	43.2	.....	31.9	.....	31.9	.....	1.17
108	LPK.....	60.7	66.0	66.0	19.7	28.7	59.1	18.2	59.4	26.2	42.2	35.9	(1.60)	46.0	.....	40.6	.....	46.0	.....	40.6	.....	40.6	.....	(1.60)	46.0	.....	46.0	.....	40.6	.....	40.6	.....	.92
109	LNPk...	61.2	69.1	69.1	31.9	18.0	65.9	31.4	51.9	30.5	44.2	31.9	.00 ²	41.0	.....	54.1	.....	41.0	.....	54.1	.....	54.1	.....	.00 ²	41.0	.....	41.0	.....	54.1	.....	54.1	.....	.67
110	NPK.....	59.7	71.8	71.8	37.2	16.3	66.3	28.8	55.9	34.5	49.0	38.1	.00 ²	37.8	.....	47.8	.....	37.8	.....	47.8	.....	47.8	.....	.00 ²	37.8	.....	37.8	.....	47.8	.....	47.8	.....	1.33

Bushels or (tons) per acre

¹Crop residues in place of commercial nitrogen after 1911.

²No seed produced; clover plowed under on these plots.

³Corn crop failed in 1915.

TABLE 2.—ALEDO FIELD: GENERAL SUMMARY, FULLY TREATED PLOTS

Serial plot No.	Soil treatment applied	Average annual yields—bushels or (tons) per acre				
		Corn 6 crops	Oats 5 crops	Wheat ¹ 4 crops	Clover 3 crops	Soybeans 1 crop
1	0.....	48.9	55.9	23.2	(2.19)	(1.38)
2	M.....	59.1	61.6	28.9	(2.42)	(1.48)
3	ML.....	63.6	65.5	28.9	(2.89)	(1.52)
4	MLP.....	65.8	63.6	30.8	(2.94)	(1.59)
5	0.....	51.8	59.8	28.2	.64	19.8
6	R.....	55.0	60.5	29.8	.58	19.8
7	RL.....	59.3	63.9	30.0	.78	22.5
8	RLP.....	62.1	65.2	32.7	.94	24.0
9	RLPK.....	63.0	69.2	30.5	.56	24.8
10	0.....	54.3	56.6	25.2	(1.82)	(1.44)

NOTE.—The rotation and soil treatment are both standard, as described in the introduction.

¹No manure on 1914 wheat.

TABLE 4.—ANTIOCH FIELD: GENERAL SUMMARY

Serial plot No.	Soil treatment applied	Average annual yields—bushels or (tons) per acre			
		Corn 7 crops	Oats 4 crops	Wheat 3 crops	Clover seed 2 crops
1	0.....	24.2	33.8	20.5	.50
2	L.....	21.8	29.3	17.3	.30
3	LN.....	20.4	30.7	23.9	.33
4	LP.....	31.2	44.6	37.8	1.08
5	LK.....	24.4	30.0	23.1	.57
6	LNP.....	34.6	43.4	30.1	.57
7	LNK.....	23.7	27.9	25.3	.59
8	LPK.....	35.6	38.9	33.6	1.26
9	LNPK.....	39.2	42.4	29.8	.33
10	NPK.....	39.9	44.8	29.5	.67

GENERAL NOTES.—The original rotation was corn, corn, oats, and wheat. Nitrogen was supplied in 800 pounds of dried blood, phosphorus in 200 pounds of steamed bone meal, and potassium in 100 pounds of potassium sulfate per acre per annum. Since the application of 470 pounds of slacked lime in 1902, no further applications were made until 1912. In 1911 the rotation was changed to corn, oats, clover, and wheat with clover seeding on the nitrogen plots. The soil treatment remained the same except that instead of applying nitrogen, all crop residues were plowed under, and an application of 4,000 pounds of limestone per acre was made once during the rotation.

TABLE 5.—BLOOMINGTON FIELD: CROP YIELDS IN SOIL EXPERIMENTS
BROWN SILT LOAM PRAIRIE; EARLY WISCONSIN GLACIATION

Plot No.	Soil treatment applied	Bushels or (tons) per acre														
		1902 Corn	1903 Corn	1904 Oats	1905 Wheat	1906 Clover ² hay	1907 Corn	1908 Corn	1909 Oats	1910 Clover	1911 Wheat	1912 Corn	1913 Corn	1914 Oats	1915 Soy- beans ³	1916 Wheat	1917 Corn
101	0.....	30.8	63.9	54.8	30.8	(.39)	60.8	40.3	46.4	(1.56)	22.5	32.4	29.8	....	20.5	24.3
102	L.....	37.0	60.3	60.8	28.8	(.58)	63.1	35.3	53.6	(1.09)	22.5	30.0	40.6	....	15.8	19.2
103	LR ¹	35.1	59.5	69.8	30.5	(.46)	64.3	36.9	49.4	.83	25.6	37.5	30.8	....	21.1	29.6
104	LP.....	41.7	73.0	72.7	39.2	(1.65)	82.1	47.5	63.8	(4.21)	57.6	44.1	45.0	....	38.8	41.0
105	LK.....	37.7	56.4	62.5	33.2	(.51)	64.1	33.2	45.3	(1.26)	21.7	32.1	35.8	....	16.7	30.2
106	LR ¹ P...	43.9	77.6	85.3	50.9	(0.00)	78.9	45.8	72.5	1.67	60.2	50.4	62.3	....	40.2	47.6
107	LR ¹ K...	40.4	58.9	66.4	29.5	(.81)	64.3	31.0	51.1	.33	27.3	58.9	34.5	....	18.7	31.1
108	LPK....	50.1	74.8	70.3	37.8	(2.36)	81.4	57.2	59.5	(3.27)	54.0	49.4	63.1	....	39.9	47.6
109	LR ¹ PK.	52.7	80.9	90.5	51.9	(0.00)	88.4	58.1	64.2	.42	60.4	49.0	54.4	....	43.8	48.3
110	R ¹ PK...	52.3	73.1	71.4	51.1	(0.00)	78.0	51.4	55.3	.60	61.0	33.8	44.8	....	39.2	51.2

¹Commercial nitrogen was used from 1902 to 1905.

²Clover partly smothered by previous wheat crop.

³Soybeans completely destroyed by hail.

TABLE 7.—CARLINVILLE FIELD: CROP YIELDS IN SOIL EXPERIMENTS BROWN SILT LOAM PRAIRIE¹; MIDDLE ILLINOISAN GLACIATION

Plot No.	Soil treatment applied	1910	1911	1912	1913	1914	1915	1916	1917
		Wheat ¹	Corn	Oats	Soy-beans	Wheat	Corn	Oats	Sweet clover ⁴
Bushels or (tons) per acre									
101	0.....	8.1	36.3	19.1	(1.45)	7.8	36.4	31.6	(0.0)
102	M.....	9.3	42.9	23.8	(1.54)	10.4	47.7	40.6	(0.05)
103	ML.....	10.4	50.7	29.7	(1.79)	17.8	56.9	48.3	(1.76)
104	MLP...	12.9	52.7	32.2	(1.83)	19.6	58.6	50.5	(1.91)
105	0.....	9.1	38.0	20.3	13.0	8.4	36.6	30.6	....
106	R.....	8.4	37.3	19.2	13.2	7.4	49.1	32.0	....
107	RL.....	8.8	45.7	26.9	15.8	12.8	68.0	49.5	....
108	RLP...	10.3	49.4	27.5	17.8	17.2	71.8	55.0	....
109	RLPK..	9.3	53.6	28.3	15.3	15.6	75.2	46.1	....
110	0.....	6.8	40.8	19.1	(1.23) ⁵	7.3	38.4	27.0	(.17)
		Cow-peas ²	Wheat ³	Corn	Oats	Soy-beans	Wheat	Corn	Oats
201	0.....	(.65)	21.3	30.6	5.1	(1.20)	14.2	28.4	46.1
202	M.....	(.62)	23.6	41.4	2.3	(1.27)	19.7	39.9	62.2
203	ML.....	(.74)	26.1	52.1	3.0	(1.50)	30.0	47.0	75.8
204	MLP...	(.80)	27.8	46.0	2.8	(1.50)	28.0	49.3	76.2
205	0.....	(.65)	22.1	25.4	1.9	10.2	14.4	28.7	45.0
206	R.....	....	20.4	28.7	1.9	10.4	16.7	30.8	51.9
207	RL.....	....	28.6	35.6	2.0	13.9	28.8	37.4	72.3
208	RLP...	....	30.3	39.6	2.3	14.8	30.0	37.8	77.0
209	RLPK..	....	32.7	44.7	3.8	12.9	27.1	43.2	81.2
210	0.....	(.64)	28.2	35.1	5.5	(1.37) ⁵	18.6	32.8	46.2
		Oats ²	Clover ³	Wheat ³	Corn	Oats	Clover	Wheat	Corn
301	0.....	32.5	(.82)	7.3	21.1	1.9	(2.31)	5.0	39.2
302	M.....	32.8	(.79)	7.6	24.7	2.2	(2.45)	5.8	63.8
303	ML.....	46.4	(1.00)	10.0	32.4	4.1	(2.97)	9.4	72.2
304	MLP...	45.6	(1.30)	12.3	33.2	3.9	(2.12)	11.7	71.3
305	0.....	45.6	(1.51)	9.8	23.2	3.4	.50	9.0	60.1
303	R.....	47.0	.17	8.2	16.4	3.9	.58	8.0	65.3
307	RL.....	46.6	.33	12.7	18.7	3.9	.50	11.4	63.7
308	RLP...	45.0	.33	14.3	18.3	4.5	.50	13.7	66.6
309	RLPK..	40.6	.33	19.0	17.7	4.4	.25	18.2	71.8
310	0.....	38.8	(.97)	18.8	25.0	3.1	(1.95)	9.0	48.6
		Corn ³	Oats ³	Soy-beans ³	Wheat ³	Corn	Oats	Clover	Wheat
401	0.....	48.7	30.6	1.11	10.9	3.3	71.7	(1.17)	13.2
402	M.....	49.6	21.1	(1.19)	7.2	6.6	74.7	(1.48)	15.8
403	ML.....	48.3	32.9	(1.29)	7.7	6.8	70.5	(1.71)	23.4
404	MLP...	52.0	34.7	(1.37)	9.6	7.2	70.2	(1.58)	25.7
405	0.....	49.5	38.4	11.3	7.7	2.5	68.8	2.75	19.8
406	R.....	43.7	30.3	12.6	15.3	3.0	71.1	2.75	9.7
407	RL.....	38.1	31.7	13.2	7.2	5.5	69.1	3.17	14.8
408	RLP...	48.5	33.3	15.2	5.3	6.6	70.2	3.00	13.8
409	RLPK..	47.1	34.4	14.3	8.5	6.2	66.7	2.42	10.6
410	0.....	45.6	33.8	11.5	8.7	3.5	69.1	(1.20)	15.6

¹The soil in this field, especially in Series 100, grades toward brown-gray silt loam on tight clay. ²No manure or residues. ³No manure. ⁴No seed produced. ⁵Estimated.

TABLE 6.—BLOOMINGTON FIELD: GENERAL SUMMARY

Serial plot No.	Soil treatment applied	Average annual yields—bushels per acre		
		Corn 7 crops	Oats 3 crops	Wheat 3 crops
1	O.....	44.0	43.7	24.6
2	L.....	41.8	51.7	22.4
3	LR.....	46.5	50.0	25.7
4	LP.....	58.1	60.5	45.2
5	LK.....	44.9	47.9	23.9
6	LRP.....	61.5	73.4	50.4
7	LRK.....	45.6	50.7	25.2
8	LPK.....	62.8	64.3	43.9
9	LRPK.....	65.8	69.7	52.0
10	RPK.....	59.7	57.2	50.4

GENERAL NOTES.—The original rotation of corn, corn oats, wheat, and clover was changed in 1909 to corn, corn, oats, clover, and wheat with clover seeding. Until 1905 nitrogen was applied in 800 pounds of dried blood per acre per annum. Thereafter crop residues were substituted. Phosphorus is applied in 200 pounds of steamed bone meal, and potassium in 100 pounds of potassium sulfate per acre per annum. Slacked lime at the rate of 320 pounds per acre was applied in 1902 and no further applications were made until 1914, when an application of 5,000 pounds per acre was made; similar applications will be made every five years.

TABLE 8.—CARLINVILLE FIELD: GENERAL SUMMARY, FULLY TREATED PLOTS

Serial plot No.	Soil treatment applied	Average annual yields—bushels or (tons) per acre				
		Corn 7 crops	Oats 6 crops	Wheat 4 crops	Clover 3 crops	Soybeans 2 crops
1	O.....	27.9	29.3	10.0	(1.16)	(1.32)
2	M.....	38.1	34.3	12.9	(1.33)	(1.40)
3	ML.....	45.4	38.6	20.1	(2.14)	(1.64)
4	MLP.....	45.5	39.3	21.2	(1.86)	(1.66)
5	O.....	30.6	28.3	12.9	1.08	11.6
6	R.....	32.9	30.0	10.4	1.11	11.8
7	RL.....	39.2	37.3	17.0	1.22	14.9
8	RLP.....	41.4	39.4	18.7	1.16	16.3
9	RLPK.....	44.6	38.4	17.9	.89	14.1
10	O.....	32.0	28.3	12.6	(1.10)	(1.30)

NOTE.—The rotation and soil treatment are standard, as described in the introduction.

TABLE 9.—CARTHAGE FIELD: CROP YIELDS IN SOIL EXPERIMENTS
BROWN SILT LOAM PRAIRIE;¹ UPPER ILLINOISAN GLACIATION

Plot No.	Soil treatment applied	1911	1912	1913	1914	1915	1916	1917
		Corn ¹	Oats ²	Clover ⁵	Wheat ⁶	Corn	Oats	Clover
Bushels or (tons) per acre								
101	0.....	39.4	31.4	(2.46)	18.8	35.9	20.3	(2.68)
102	M.....	43.7	33.9	(2.64)	19.2	43.0	31.2	(2.53)
103	ML.....	38.5	33.3	(3.06)	22.9	40.0	32.8	(2.37)
104	MLP...	41.0	37.0	(3.02)	23.6	47.0	35.9	(2.54)
105	0.....	35.0	30.2	.67	25.6	23.1	23.4	.67
106	R.....	30.7	24.4	.67	24.7	23.4	25.0	.67
107	RL.....	31.6	26.1	.50	25.0	37.0	29.7	.58
108	RLP...	31.2	26.3	.50	27.7	45.0	34.4	1.08
109	RLPK..	32.0	26.1	.50	28.3	47.6	40.6	.92
110	0.....	36.5	31.4	(3.64)	28.4	24.2	21.9	(2.00)
		Wheat ⁷	Corn ³	Oats	Clover	Wheat	Corn	Oats
201	0.....	4.3	33.3	27.2	(1.14)	24.0	23.5	49.7
202	M.....	4.9	38.8	30.0	(1.25)	26.7	27.9	51.7
203	ML.....	3.8	39.7	32.0	(1.52)	28.7	32.9	57.8
204	MLP...	4.7	40.8	33.9	(1.66)	30.1	29.1	66.9
205	0.....	4.5	30.4	26.7	1.42	24.0	23.2	56.4
206	R.....	4.4	42.3	22.5	1.42	30.8	23.4	67.0
207	RL.....	5.0	41.3	24.4	1.33	34.2	29.9	72.0
208	RLP...	5.4	55.4	27.5	1.50	38.0	27.6	66.1
209	RLPK..	5.3	57.2	26.9	1.08	38.8	31.7	64.1
210	0.....	4.5	28.2	25.0	(1.88)	31.2	20.6	40.9
		Soy-beans ¹	Wheat ⁴	Corn	Oats	Soy-beans	Wheat	Corn
301	0.....	11.0	7.4	25.3	18.0	(2.40)	7.2	22.1
302	M.....	10.3	3.6	26.1	15.6	(2.90)	12.5	26.5
303	ML.....	9.3	3.8	23.7	17.2	(2.99)	16.7	36.2
304	MLP...	11.3	5.3	34.8	17.0	(3.11)	22.5	41.4
305	0.....	10.8	5.7	28.6	17.8	19.2	7.5	17.4
306	R.....	10.8	4.3	47.8	23.4	21.7	8.3	54.2
307	RL.....	11.5	6.8	49.7	26.6	23.3	18.8	61.9
308	RLP...	10.3	5.5	49.1	23.6	29.7	20.0	67.8
309	RLPK..	10.7	7.1	51.3	24.2	26.7	25.0	66.1
310	0.....	10.2	6.5	29.2	19.2	(2.39)	10.8	37.0
		Oats ¹	Soy-beans ²	Wheat ⁶	Corn	Oats	Clover	Wheat
401	0.....	12.7	20.6	24.0	24.6	30.6	(2.23)	18.8
402	M.....	10.6	17.9	29.8	39.5	37.8	(1.88)	19.2
403	ML.....	14.8	19.6	29.1	40.8	48.4	(2.18)	18.9
404	MLP...	15.5	20.4	24.2	44.7	49.7	(2.72)	17.5
405	0.....	12.8	16.9	21.0	26.4	30.3	.08	16.7
406	R.....	9.8	15.0	16.4	35.4	35.9	.17	18.9
407	RL.....	13.3	14.6	24.2	47.2	54.7	.08	21.7
408	RLP...	10.3	16.5	23.2	57.2	60.3	.17	15.2
409	RLPK..	11.3	16.3	23.2	58.3	59.4	.50	24.1
410	0.....	10.9	17.0	22.7	31.3	28.1	(2.44)	16.0

¹No soil treatment. ²Residues only. ³No lime. ⁴No manure or lime. ⁵No manure, phosphate, or potassium. ⁶No manure. ⁷Phosphorus and potassium only.

TABLE 11.—CLAYTON FIELD: CROP YIELDS IN SOIL EXPERIMENTS
BROWN SILT LOAM PRAIRIE; UPPER ILLINOISAN GLACIATION

Plot No.	Soil treatment applied	1911	1912	1913	1914	1915	1916	1917
		Corn ¹	Oats ²	Soy-beans ⁵	Wheat ⁶	Corn	Oats	Clover
Bushels or (tons) per acre								
101	O.....	45.8	43.0	10.3	5.0	23.3	19.2	(2.01)
102	M.....	50.0	42.3	(1.49)	4.8	27.3	21.6	(2.51)
103	ML.....	52.4	39.3	(1.58)	5.3	28.6	20.8	(3.26)
104	MLP...	48.7	46.9	(1.50)	5.4	31.5	23.0	(3.55)
105	O.....	54.6	44.1	12.1	6.2	25.6	20.3	1.92
106	R.....	56.5	40.0	12.5	8.5	36.0	20.2	2.17
107	RL.....	57.6	41.6	13.5	6.8	55.4	31.4	2.17
108	RLP...	55.5	42.3	13.0	8.8	55.2	38.6	2.00
109	RLPK..	52.0	43.8	11.8	7.9	56.5	35.9	2.00
110	O.....	54.0	50.0	12.7	7.5	27.3	25.9	(2.94)
		Oats ¹	Corn ³	Oats	Soy-beans	Wheat	Corn	Oats
201	O.....	19.5	35.4	45.5	(1.28)	11.2	17.1	63.8
202	M.....	19.1	47.4	55.3	(1.41)	17.9	21.4	71.6
203	ML.....	16.9	36.9	51.6	(1.38)	14.5	21.5	70.6
204	MLP...	20.9	56.8	56.1	(1.45)	23.2	21.0	72.3
205	O.....	18.9	38.7	45.9	14.2	7.0	15.2	65.9
206	R.....	18.1	52.1	45.9	16.7	16.2	26.7	69.8
207	RL.....	18.9	50.5	48.3	18.3	16.1	26.8	82.8
208	RLP...	20.9	54.4	52.2	19.6	30.2	26.9	77.5
209	RLPK..	17.5	55.5	47.7	17.1	29.2	24.6	83.6
210	O.....	25.0	36.2	45.5	(1.40) ⁷	14.8	15.1	65.9
		Soy-beans ¹	Barley ⁴	Corn	Oats	Soy-beans	Wheat	Corn
301	O.....	12.0	19.6	35.4	10.0	(2.52)	1.6	30.4
302	M.....	12.5	19.7	55.2	14.7	(2.58)	2.0	52.8
303	ML.....	13.0	20.2	55.1	13.3	(2.83)	3.9	61.2
304	MLP...	12.8	22.6	58.4	15.9	(3.11)	4.6	60.5
305	O.....	14.6	21.5	42.1	13.9	12.5	1.8	35.2
306	R.....	14.4	21.4	49.7	17.3	12.5	4.4	52.6
307	RL.....	14.8	22.2	52.2	16.6	19.2	5.6	59.9
308	RLP...	14.8	24.5	55.1	18.4	19.6	7.5	65.6
309	RLPK..	14.8	30.8	52.6	16.9	22.5	9.0	64.0
310	O.....	13.8	18.9	43.6	14.7	(2.21)	1.7	20.3
		Oats ¹	Soy-beans ²	Wheat ⁶	Corn	Oats	Clover	Wheat
401	O.....	27.0	16.4	32.9	36.0	58.1	(2.30)	18.0
402	M.....	32.2	(1.36)	31.0	37.8	61.6	(2.77)	21.7
403	ML.....	30.0	(1.36)	31.6	48.7	64.5	(2.76)	21.6
404	MLP...	30.8	(1.36)	34.0	46.1	69.5	(2.51)	23.5
405	O.....	32.8	17.5	34.1	29.9	60.5	1.83	20.4
406	R.....	33.3	16.7	33.3	30.4	50.5	1.58	26.7
407	RL.....	33.3	16.9	33.8	41.6	62.5	1.00	21.5
408	RLP...	33.3	17.2	37.0	31.9	68.0	1.00	23.2
409	RLPK..	34.7	16.3	37.3	45.5	65.6	1.25	24.7
410	O.....	35.6	17.5	35.0	34.8	62.2	(2.15)	16.0

¹No treatment. ²Residues only. ³No lime. ⁴No manure or lime. ⁵No manure, phosphate or potassium. ⁶No manure. ⁷Estimated.

TABLE 10.—CARTHAGE FIELD: GENERAL SUMMARY, FULLY TREATED PLOTS

Serial plot No.	Soil treatment applied	Average annual yields—bushels or (tons) per acre				
		Corn 5 crops	Oats 5 crops	Wheat ¹ 4 crops	Clover 3 crops	Soybeans 1 crop
1	0.....	26.3	29.2	17.2	(2.02)	(2.40)
2	M.....	32.6	33.3	19.4	(1.89)	(2.90)
3	ML.....	34.7	37.6	21.8	(2.02)	(2.99)
4	MLP.....	39.4	40.7	23.4	(2.31)	(3.11)
5	0.....	23.4	30.9	18.4	.72	19.2
6	R.....	36.8	34.8	20.7	.75	21.7
7	RL.....	45.1	41.5	24.9	.66	23.3
8	RLP.....	49.3	42.4	25.2	.92	29.7
9	RLPK.....	51.0	43.0	29.0	.83	26.7
10	0.....	28.5	27.0	21.6	(2.11)	(2.39)

NOTE.—The rotation and soil treatment are standard, as described in the introduction.

¹No manure on 1914 wheat.

TABLE 12.—CLAYTON FIELD: GENERAL SUMMARY, FULLY TREATED PLOTS

Plot No.	Soil treatment applied	Average annual yields—bushels or (tons) per acre				
		Corn 5 crops	Oats 5 crops	Wheat ¹ 4 crops	Clover 2 crops	Soybeans 2 crops
1	0.....	28.4	39.3	9.0	(2.16)	(1.90)
2	M.....	38.9	45.0	11.6	(2.64)	(2.00)
3	ML.....	43.0	44.2	11.3	(3.01)	(2.10)
4	MLP.....	43.5	47.4	14.2	(3.03)	(2.28)
5	0.....	29.6	41.3	8.9	1.88	13.3
6	R.....	39.1	40.7	14.0	1.88	14.6
7	RL.....	47.2	48.3	12.5	1.59	18.8
8	RLP.....	46.9	50.9	17.4	1.50	19.6
9	RLPK.....	48.7	49.9	17.7	1.62	19.8
10	0.....	28.2	42.8	10.0	(2.54)	(1.80)

NOTE.—The rotation and soil treatment are standard, as described in the introduction.

¹No manure on 1914 wheat.

TABLE 13.—CUTLER FIELD: CROP YIELDS IN SOIL EXPERIMENTS
GRAY SILT LOAM ON TIGHT CLAY, PRAIRIE; LOWER ILLINOISAN GLACIATION

Plot No.	Soil treatment applied	Bushels or (tons) per acre															
		1902 Corn ¹	1903 Oats ¹	1904 Wheat ¹	1905 Clover ¹	1906 Corn ¹	1907 Corn	1908 Wheat ²	1909 Soy-beans ²	1910 Corn	1910 Oats	1911 Clover	1912 Wheat	1913 Corn	1914 Oats	1915 Clover	1916 Wheat
98	RL(bP)K.	...	...	21.0	(2.74)	45.8	52.5	19.6	...	39.8	18.4	.67	34.7	3.6	35.8	1.83	40.6
99	RL(aP)K.	...	...	23.1	(2.52)	46.2	60.6	24.2	...	35.2	16.7	1.67	38.8	2.1	40.9	1.25	46.2
100	RL(rP)K.	...	...	20.5	(2.51)	52.5	63.8	19.6	...	46.2	20.0	2.58	37.3	6.4	29.1	2.00	45.5
101	0.....	6.8	15.2	9.0	(1.33)	37.3	41.3	5.3	(.63)	26.0	15.8	(.18)	10.4	6.3	18.4	(.42)	15.5
102	L.....	5.2	13.7	10.5	(1.71)	40.9	36.9	8.6	(.73)	33.1	20.9	(.46)	20.9	6.0	25.0	(.84)	27.4
103	RL.....	1.2	16.6	9.8	(1.69)	41.6	32.8	12.6	...	29.7	20.0	1.92	22.8	3.5	31.2	1.92	29.3
104	LP.....	3.5	14.2	21.9	(1.89)	40.5	24.7	19.3	(.69)	26.7	20.8	(.68)	26.1	2.9	28.4	(.95)	33.2
105	LK.....	2.9	18.0	10.0	(1.80)	43.1	56.9	11.5	(.61)	44.8	20.8	(.64)	27.3	2.7	30.2	(1.00)	36.4
106	RLP.....	2.2	20.3	15.8	(1.98)	42.3	23.8	20.4	...	29.1	22.3	2.58	29.2	2.1	32.5	2.42	36.8
107	RLK.....	2.8	20.0	8.2	(2.11)	50.0	54.7	13.0	...	44.6	23.8	3.08	29.6	4.5	39.4	2.25	34.3
108	LPK.....	10.2	27.5	22.4	(2.77)	57.1	59.4	20.9	(.96)	52.6	25.6	(.91)	38.0	6.7	32.7	(1.41)	43.4
109	RLPK.....	4.6	28.7	17.7	(2.79)	55.7	55.0	21.3	...	49.9	23.9	3.25	37.2	3.8	40.6	2.58	42.8
110	RPK.....	5.4	37.7	15.0	(2.83)	55.5	40.3	18.0	...	37.7	19.4	3.33	34.8	2.1	38.8	3.17	31.9
111	L(aP)K.....	...	...	24.2	(2.40)	52.7	51.9	18.3	(1.04)	37.9	23.8	(.65)	37.3	5.8	39.8	(1.38)	46.9
112	L(rP)K.....	...	...	13.1	(2.06)	47.3	43.8	16.1	(1.11)	49.3	24.4	(.64)	26.2	8.8	34.2	(1.15)	42.1
		Cow-peas ²	Wheat	Corn	Cow-peas	Wheat	Corn	Soy-beans	Wheat	Corn	Soy-beans	Wheat	Corn	Soy-beans ⁵	Wheat	Corn	Soy-beans
201	0.....	(.71)	6.0	22.8	(1.35)	12.1	15.9	4.0	7.8	7.7	(.63)	1.8	8.1	.....	.5	13.5	(.75)
202	R.....	(.98)	9.2	24.7	(1.38)	13.3	19.1	5.3	10.8	12.5	5.8	1.3	13.0	.....	.5	21.6	4.2
203	M.....	(.86)	12.1	36.9	(1.72)	14.6	26.3	4.9	10.0	37.8	11.5	3.6	18.3	.....	1.8	28.8	(1.24)
204	RL.....	(.95)	13.5	30.6	(1.48)	23.4	29.1	5.1	15.9	35.9	11.5	3.0	22.0	.....	1.8	38.4	12.7
205	ML.....	(.86)	13.3	44.1	(1.62)	21.6	35.0	4.8	15.8	40.9	(1.92)	5.3	24.4	.....	2.4	40.8	(1.59)
206	RLP.....	(.95)	20.3	30.6	(1.64)	26.5	31.3	4.6	20.2	44.0	11.8	5.7	25.5	.....	2.2	43.8	13.4
207	MLP.....	(.95)	20.8	30.9	(1.79)	24.6	36.9	5.1	19.3	48.4	(1.91)	6.6	24.6	.....	2.6	43.6	(1.51)
208	RLPK.....	(.95)	26.0	60.0	(1.82)	30.4	57.8	6.8	19.0	69.5	15.0	7.2	28.1	.....	3.3	43.1	12.9
209	MLPK.....	(1.18)	24.8	70.9	(1.91)	29.5	45.6	6.9	16.9	54.7	(2.03)	7.7	32.7	.....	5.2	42.7	(1.65)
210	LPK.....	(1.41)	21.1	71.9	(2.19)	26.8	35.6	8.1	16.4	41.7	(1.98)	7.5	30.0	.....	3.9	34.2	(1.36)

TABLE 13.—CUTLER FIELD, Concluded

Plot No.	Soil treatment applied	Bushels or (tons) per acre															
		1902 Oats ⁵	1903 Cow-peas ⁵	1904 Wheat	1905 Corn	1906 Cow-peas	1907 Wheat	1908 Corn	1909 Soy-beans ²	1910 Wheat	1911 Corn	1912 Soy-beans	1913 Wheat	1914 Corn	1915 Soy-beans ³	1916 Wheat	1917 Corn
211	O.....	19.6	.....	9.0	24.1	(.43)	14.8	27.0	(.43)	7.3	22.9	(1.08)	8.8	3.0	.....	.....	29.9
212	R.....	23.8	.....	8.5	52.0	2.6	16.6	26.0	(.95)	11.8	24.6	10.7	5.6	6.4	.....	.....	34.2
213	M.....	26.6	.....	18.2	51.1	(.81)	25.2	43.0	(.95)	10.2	31.4	(1.20)	8.3	9.0	.....	.....	39.7
214	RL.....	26.9	.....	8.8	57.7	3.2	26.1	37.6	(.95)	21.9	44.0	15.0	21.1	11.5	.....	.....	48.0
215	ML.....	27.8	.....	18.4	69.7	(1.03)	30.7	50.3	(1.35)	15.5	43.8	(1.61)	17.8	14.4	.....	.....	57.5
216	RLP.....	28.0	.....	14.3	57.3	5.2	32.0	38.6	(.95)	26.7	47.6	14.3	32.2	6.4	.....	.....	48.3
217	MLP.....	25.1	.....	19.7	69.3	(1.40)	37.2	50.7	(1.25)	18.3	52.0	(1.78)	29.7	3.8	.....	.....	57.8
218	RLPK.....	31.1	.....	16.4	71.3	9.8	36.7	53.9	(1.33)	27.6	54.5	17.9	31.7	1.0	.....	.....	59.0
219	MLPK.....	28.8	.....	19.7	64.7	(1.97)	36.3	54.8	(1.33)	17.3	50.4	(1.90)	29.6	1.1	.....	.....	59.5
220	LPK.....	26.7	.....	15.0	37.5	(1.73)	29.5	50.9	(1.56)	14.2	37.7	(1.79)	23.3	1.0	.....	.....	50.1
		Wheat ⁴	Corn ⁶	Cow-peas ⁵	Wheat	Corn	Cow-peas	Wheat	Corn	Soy-beans	Wheat	Corn	Soy-beans	Wheat	Corn	Soy-beans	Wheat
221	O.....	12.8	4.0	.....	8.7	28.6	(.58)	6.4	17.5	(1.45)	5.6	22.2	(.14)	7.2	1.1	(.46)	9.5
222	R.....	12.3	3.7	.....	12.8	30.9	(.68)	5.5	22.6	13.1	5.0	26.4	.8	8.8	1.1	3.4	7.4
223	M.....	12.4	3.5	.....	14.9	33.2	(.73)	7.0	23.9	(1.73)	5.8	43.5	(.18)	10.2	.3	(.63)	13.2
224	RL.....	13.2	3.7	.....	13.8	28.1	(.90)	10.6	35.8	17.5	9.0	38.4	1.5	20.9	4.8	7.8	20.0
225	ML.....	12.9	3.6	.....	20.1	35.1	(1.05)	13.8	36.6	(2.16)	10.4	53.9	(.39)	22.4	6.1	(1.74)	27.9
226	RLP.....	16.9	2.4	.....	18.2	29.1	(1.11)	16.4	33.8	17.6	12.6	42.3	1.1	21.9	3.5	7.1	19.6
227	MLP.....	16.1	2.1	.....	20.1	32.8	(.93)	15.6	31.6	(2.30)	14.8	52.4	(.41)	19.8	4.2	(1.62)	26.3
228	RLPK.....	20.8	3.7	.....	23.5	48.4	(1.96)	21.4	41.8	22.5	18.3	59.9	1.4	23.4	1.0	12.9	14.6
229	MLPK.....	19.4	6.1	.....	23.0	35.3	(2.27)	20.7	34.2	(2.59)	18.7	47.8	(.59)	20.4	3.3	(1.92)	32.1
230	LPK.....	20.8	9.2	.....	21.5	37.2	(2.19)	17.7	32.6	(2.67)	18.7	46.9	(.54)	22.7	3.2	(1.58)	26.6

GENERAL NOTES.—Series 100 has been conducted as a fertility test, with a rotation chiefly of corn, oats, clover, and wheat with clover seeding. Nitrogen in 800 pounds of dried blood per acre per year was applied until 1905, after which residues were substituted. The regular application of phosphorus is 200 pounds steamed bone meal per acre per year, except that 333 pounds of acid phosphate is applied to Plots 99 and 111, and 666 pounds of raw phosphate to Plots 100 and 112. On all potassium plots, an application of 100 pounds of potassium sulfate has been made per acre per year. Limestone is applied at rate of 1,000 pounds. On Series 200 the rotation is wheat, corn, and legumes. The residues and manure supply the nitrogen; phosphorus is supplied in 200 pounds of steamed bone meal and potassium in 100 pounds potassium sulfate per acre per annum. Four hundred and fifty pounds of slacked lime was applied in 1902, 3 tons in 1903, and no further application made until 1911, when applications of limestone were begun at the rate of 1,000 pounds per acre per year.

¹Commercial nitrogen in place of residues. ²Legume plowed under on residue plots. ³No manure or residues. ⁴No manure, residues, or lime. ⁵Crop failure. ⁶No manure.

TABLE 14.—CUTLER FIELD: GENERAL SUMMARY, FULLY TREATED PLOTS

Plot No.	Soil treatment applied	Average annual yields—bushels or (tons) per acre			
		Corn 4 crops	Oats 2 crops	Wheat 4 crops	Clover 3 crops ¹
98	RL(bP)K.....	35.4	27.1	29.0	1.75
99	RL(aP)K.....	36.0	28.8	33.1	1.81
100	RL(rP)K.....	42.2	24.6	30.7	2.36
101	0.....	27.7	17.1	10.0	(.64)
102	L.....	29.2	23.0	16.9	(1.00)
103	RL.....	26.9	25.6	18.6	1.84
104	LP.....	23.7	24.6	25.1	(1.17)
105	LK.....	36.9	25.5	21.3	(1.14)
106	RLP.....	24.3	27.4	25.6	2.33
107	RLK.....	38.4	31.6	21.3	2.48
108	LPK.....	44.0	29.1	31.2	(1.69)
109	RLPK.....	41.1	32.2	29.8	2.87
110	RPK.....	33.9	29.1	24.9	3.11
111	L(aP)K.....	37.1	31.8	31.7	(1.47)
112	L(rP)K.....	37.3	29.3	24.4	(1.28)

Plot No.	Soil treatment applied	Average annual yields—bushels or (tons) per acre			
		Corn 14 crops	Wheat 15 crops	Cowpeas or soybeans 13 crops ²	
201	0.....	17.4	7.0	(0.59)	....
202	R.....	22.5	7.8	5.1	....
203	M.....	30.4	10.3	(.83)	....
204	RL.....	33.0	14.1	7.5	....
205	ML.....	39.5	15.8	(1.14)	....
206	RLP.....	34.4	18.1	7.9	....
207	MLP.....	38.5	18.5	(1.18)	....
208	RLPK.....	46.4	20.1	10.5	....
209	MLPK.....	42.6	20.2	(1.21)	....
210	LPK.....	36.5	17.8	(1.41)	....

¹First crop all hay. ²1908 seed only.

TABLE 15.—DEKALB FIELD: CROP YIELDS IN SOIL EXPERIMENTS
BROWN SILT LOAM PRAIRIE; EARLY WISCONSIN GLACIATION

Plot No.	Soil treatment applied	Bushels or (tons) per acre											
		1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917
103	RP.....	74.8	33.0	44.1	0.00	58.9	62.4	76.6	0.00	69.6	37.8	68.4	0.0
106	RP.....	76.2	37.8	40.9	0.00	62.4	64.1	76.1	0.00	78.3	39.7	63.9	0.0
109	R.....	73.0	35.3	44.1	0.00	55.7	64.5	63.1	0.00	68.4	33.3	62.1	0.0
110	M.....	72.8	35.5	40.6	(1.80)	54.2	56.0	66.2	(1.26)	78.7	30.4	69.1	(.79)
113	MP.....	66.0	30.4	45.6	(2.40)	58.6	59.3	74.1	(1.74)	76.9	39.6	66.6	(.59)
116 ¹	MP.....	51.6	0.0	28.1	(2.00)	45.2	0.0	60.5	(1.74)	79.7	33.3	54.4	(.52)
		Corn	Oats	Wheat	Clover	Corn	Oats	Oats	Clover	Corn	Oats	Wheat	Clover
123	RP.....	67.4	30.0	27.7	0.00	48.2	15.0	42.3	0.00	81.5	49.8	35.2	0.00
126	RP.....	92.8	35.6	38.5	0.00	70.9	12.2	41.1	0.00	84.1	51.2	43.4	0.00
129	R.....	67.3	33.4	37.3	0.00	63.9	18.1	55.9	0.00	61.3	40.7	35.1	0.00
130	M.....	69.3	33.8	33.0	(.60)	61.1	17.6	64.6	(.92)	69.4	26.9	29.3	(.92)
133	MP.....	76.8	39.1	43.0	(.90)	61.5	19.7	72.9	(1.96)	79.0	33.1	29.9	(.85)
136	MP.....	72.0	35.0	41.8	(.90)	57.9	14.0	78.1	(1.96)	77.7	36.9	28.0	(.81)
		Corn	Oats	Clover	Corn	Corn	Oats	Soy-beans	Corn	Corn	Oats	Clover	Corn
203	RP.....	64.6	28.1	(2.45)	56.8	48.4	38.6	(.45)	58.3	50.4	68.5	0.00	17.2
206	RP.....	66.6	28.7	(2.87)	47.1	45.2	39.2	(.90)	61.2	58.0	69.2	0.00	16.0
209	R.....	76.4	30.3	(2.40)	59.2	53.9	37.8	(1.20)	68.4	64.9	61.4	0.00	16.9
210	M.....	72.4	29.0	(2.60)	68.5	56.8	37.8	(1.10)	63.0	65.6	57.5	(1.84)	21.3
213	MP.....	45.4	28.1	(2.25)	66.5	52.7	26.9	(0.00) ²	64.1	62.8	54.0	(1.82)	19.4
216	MP.....	76.0	28.9	(2.32)	63.0	46.4	27.0	(0.00) ²	58.8	62.5	64.6	(1.82)	22.2
		Oats	Wheat	Clover	Corn	Oats	Wheat	Soy-beans	Corn	Oats	Wheat	Clover	Corn
223	RP.....	22.9	18.6	(2.92)	64.2	71.0	29.0	0.00	55.4	47.4	39.9	0.00	17.4
226	RP.....	26.1	19.0	(2.90)	76.8	74.0	33.0	0.00	52.7	50.4	42.7	0.00	17.0
229	R.....	24.1	14.6	(2.32)	59.8	76.2	25.9	0.00	59.0	44.6	39.0	0.00	8.8
230	M.....	26.4	19.3	(2.55)	70.2	81.0	34.8	(1.40)	63.3	45.4	39.2	(2.25)	16.7
233	MP.....	38.0	20.7	(2.67)	75.5	80.3	37.0	(1.40)	68.3	49.2	45.0	(2.56)	23.1
236	MP.....	36.9	22.7	(2.45)	72.0	79.5	36.7	(1.90)	65.4	45.7	38.6	(2.56)	27.6

¹Alkali spot. ²Growth practically all weeds.

TABLE 15.—DEKALB FIELD, Concluded

Plot No.	Soil treatment applied	Bushels or (tons) per acre											
		1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917
303	RP	Oats	Clover	Corn	Corn	Oats	Oats	Clover	Corn	Corn	Oats	Corn	Corn
306	RP	23.6	(1.38)	66.1	55.1	68.3	0.00	63.7	54.4	53.2	2.00	46.1	11.3
309	R	21.9	(1.38)	67.8	58.2	84.5	0.00	68.0	60.1	49.1	2.00	44.6	13.9
310	M	25.3	(1.25)	66.0	58.2	76.1	0.00	57.6	59.1	47.7	3.70	43.4	9.0
313	MP	24.9	(1.45)	73.3	55.4	71.9	(1.30)	63.7	60.0	42.5	(1.59)	51.6	7.3
316	MP	24.6	(1.69)	69.2	52.8	80.9	(1.50)	83.1	53.4	43.2	(1.88)	53.0	11.2
		23.7	(1.69)	70.8	54.5	82.7	(1.50)	78.2	55.3	43.4	(1.88)	47.0	8.8
323	RP	Oats	Clover	Corn	Oats	Wheat	Clover	Corn	Oats	Wheat	Clover	Corn	Oats
326	RP	27.9	(1.66)	55.9	70.1	31.2	0.00	67.2	57.4	39.0	0.00	48.6	87.0
329	R	24.9	(1.66)	59.6	65.4	33.4	0.00	66.8	64.1	41.0	0.00	46.8	85.9
330	M	25.4	(1.30)	39.2	73.3	25.6	0.00	54.4	54.0	25.4	0.00	38.5	80.7
333	MP	26.1	(1.30)	75.4	68.4	38.9	(.80)	69.9	66.4	33.5	(1.92)	50.7	77.1
336	MP	22.8	(1.90)	67.1	74.6	39.0	(1.46)	67.9	71.9	37.2	(2.19)	52.6	78.3
		23.6	(1.90)	72.6	67.3	45.9	(1.45)	66.8	71.7	39.5	(2.19)	54.7	74.5
403	RP	Cow-peas ^a	Corn	Corn	Oats	Clover	Corn	Corn	Oats	Clover	Corn	Corn	Oats
406	RP	.....	53.0	43.9	37.5	0.00	78.6	52.4	43.2	3.12	40.5	40.3	67.5
409	R	.....	54.9	46.5	43.8	0.00	75.8	60.2	43.6	3.12	44.0	45.7	78.6
410	M	.....	47.7	30.9	50.8	0.00	49.7	39.5	43.6	1.29	26.5	37.9	67.6
413	MP	.....	65.8	50.9	60.1	(2.44)	63.1	56.7	39.7	(2.54)	35.9	42.2	85.3
416	MP	.....	73.5	55.1	69.0	(3.41)	73.7	67.7	51.1	(3.32)	37.5	47.8	94.2
		.....	74.3	54.3	67.3	(3.41)	72.3	62.4	54.7	(3.32)	44.4	45.4	93.1
423	RP	Soy-beans ^a	Corn	Oats	Oats	Clover	Corn	Oats	Wheat	Clover	Corn	Oats	Wheat
426	RP	.....	43.9	36.2	61.4	0.00	81.0	81.3	35.4	3.29	32.4	68.8	25.4
429	R	.....	45.3	31.7	59.4	0.00	80.0	77.6	33.1	3.29	38.7	64.8	20.7
430	M	.....	43.5	37.3	66.1	0.00	76.4	77.8	27.7	4.50	30.9	62.5	25.2
433	MP	.....	58.1	42.8	72.3	(3.10)	76.8	75.0	36.0	(2.68)	42.4	66.5	25.4
436	MP	.....	50.9	43.9	69.4	(3.08)	83.5	75.0	41.2	(3.05)	39.4	71.6	33.6
		.....	50.8	41.2	59.5	(3.08)	86.7	71.3	37.2	(3.05)	47.1	73.7	34.7

^aYields not taken.

TABLE 16.—DEKALB FIELD: GENERAL SUMMARY

Serial plot No.	Soil treatment applied	Average annual yields—bushels or (tons) per acre			
		Corn 36 crops	Oats 27 crops	Wheat 9 crops	Clover 20 crops
3	RP.....	52.8	51.3	31.3	.84 ¹
6	RP.....	56.2	52.0	35.0	.86 ¹
9	R.....	49.7	50.7	28.4	.84 ¹
10	M.....	56.5	52.4	32.1	(1.73)
13	MP.....	57.4	55.5	36.3	(2.06)
16	MP.....	54.4	53.2	36.1	(2.03)

GENERAL NOTES.—Two different rotations are practiced upon this field. On each series a rotation of corn, corn, oats, and clover is grown upon Plots 3 to 16, and corn, oats, wheat, and clover on Plots 23 to 36. The soil treatment as indicated is standard, as described in the introduction.

¹First four crops harvested as hay.

TABLE 17.—DIXON FIELD: MAIN ROTATION: CROP YIELDS IN SOIL EXPERIMENTS
BROWN SILT LOAM PRAIRIE; IOWAN GLACIATION

Plot No.	Soil treatment applied	1910 ¹	1911	1912	1913	1914	1915	1916	1917
		Barley	Corn ²	Oats ⁴	Clover ⁴	Wheat ⁵	Corn	Oats	Soy-beans
		Bushels or (tons) per acre							
101	O.....	20.5	56.4	35.2	(3.14)	24.8	5.6	72.0	(1.62)
102	M.....	20.8	62.8	39.8	(3.32)	25.3	32.9	70.8	(1.82)
103	ML.....	24.4	60.5	47.2	(3.47)	26.6	38.1	79.2	(2.25)
104	MLP....	24.7	64.7	42.2	(3.56)	33.5	41.7	81.6	(2.40)
105	O.....	26.8	64.3	47.8	1.00	32.8	18.5	76.6	10.8
106	R.....	24.9	65.9	50.0	1.25	37.7	24.4	78.8	9.1
107	RL.....	24.4	67.5	49.5	1.00	34.2	29.0	81.2	10.8
108	RLP....	22.3	68.2	44.5	1.00	37.9	33.0	83.4	11.0
109	RLPK...	20.8	69.2	49.4	.75	35.2	32.6	78.1	10.3
110	O.....	21.6	65.0	43.3	(2.96)	24.9	2.4	69.7	(1.28)
		Clover	Wheat ³	Corn	Oats	Clover	Wheat	Corn	Oats
201	O.....	(1.69)	31.9	3.3	49.2	(1.76)	27.9	37.8	68.4
202	M.....	(1.56)	31.0	12.9	55.6	(2.13)	28.2	44.5	82.3
203	ML.....	(1.54)	33.8	11.4	52.7	(2.54)	29.2	49.5	85.6
204	MLP....	(1.87)	37.4	26.2	58.4	(2.77)	34.0	52.8	93.0
205	O.....	(1.87)	30.5	21.1	58.9	1.17 ⁶	28.0	43.4	76.1
206	R.....	...	37.9	37.5	58.4	1.42	31.3	44.3	77.7
207	RL.....	...	30.7	34.2	52.7	1.58	30.0	48.5	77.7
208	RLP....	...	41.0	42.2	58.6	2.17	36.8	50.4	85.9
209	RLPK...	...	41.6	61.5	56.1	2.00	34.6	49.4	84.4
210	O.....	(1.80)	30.6	20.4	52.3	1.83 ⁶	25.1	40.9	68.1
		Oats ²	Soy-beans ²	Barley ⁵	Corn	Oats	Clover	Wheat	Corn
301	O.....	50.0	14.5	17.2	35.5	54.7	(1.35)	7.2	24.9
302	M.....	56.9	12.8	30.6	56.6	60.6	(3.38)	9.2	55.3
303	ML.....	57.3	16.7	27.0	60.4	61.1	(3.41)	11.6	57.2
304	MLP....	54.5	16.0	32.5	55.3	60.6	(3.57)	18.2	60.7
305	O.....	56.1	17.9	27.6	42.5	60.0	.42	12.2	26.6
306	R.....	56.7	15.3	37.7	47.5	59.8	.58	16.2	40.6
307	RL.....	48.9	18.1	31.2	48.3	56.2	.58	14.9	38.7
308	RLP....	49.5	17.9	37.5	49.2	54.2	.50	21.1	45.5
309	RLPK...	51.6	19.1	40.6	53.4	58.0	.42	22.1	46.4
310	O.....	48.1	15.4	27.8	44.4	58.8	(2.50)	10.6	29.4
		Corn	Oats ²	Soy-beans ¹	Wheat ⁵	Corn	Oats	Clover	Wheat
401	O.....	35.8	47.8	(1.60)	16.2	43.9	65.5	(2.69)	25.5
402	M.....	40.3	48.3	(1.73)	18.2	66.8	70.5	(2.97)	26.2
403	ML.....	41.3	53.8	(1.74)	17.6	68.8	58.6	(3.06)	27.5
404	MLP....	41.3	48.4	(1.63)	23.7	66.1	54.2	(3.03)	27.8
405	O.....	42.2	48.4	12.3	18.8	49.1	73.9	.05	24.8
406	R.....	39.2	49.7	12.4	21.0	58.8	68.6	.03	26.8
407	RL.....	40.0	42.3	15.0	20.7	61.3	58.6	.04	30.7
408	RLP....	39.0	47.0	14.0	23.8	55.4	58.9	.06	31.8
409	RLPK...	35.2	47.8	13.8	23.0	59.1	52.5	.05	35.8
410	O.....	43.0	48.0	(1.50)	15.0	49.0	72.7	(2.85)	25.7

¹No soil treatment in 1910. ²Residues only. ³No manure or lime. ⁴No manure, phosphate, or potassium. ⁵No manure. ⁶Yields from Plots 5 and 10 interchanged.

TABLE 18.—DIXON FIELD: MAIN ROTATION: GENERAL SUMMARY
FULLY TREATED PLOTS

Serial plot No.	Soil treatment applied	Average annual yields—bushels or (tons) per acre			
		Corn 6 crops	Oats 5 crops	Wheat ¹ 4 crops	Clover 3 crops
1	0	25.2	62.0	21.3	(1.93)
2	M	44.8	68.0	22.2	(2.82)
3	ML	47.6	67.4	23.7	(3.00)
4	MLP	50.5	69.6	28.4	(3.12)
5	0	33.5	69.1	24.2	.55
6	R	42.2	68.7	28.0	.67
7	RL	43.3	65.3	27.4	.73
8	RLP	46.0	68.2	31.9	.91
9	RLPK	50.4	65.8	31.9	.82
10	0	31.1	64.3	21.6	(2.39)

NOTE.—The rotation and soil treatment are standard, as described in the introduction.

¹No manure on 1914 wheat.

TABLE 19.—DIXON FIELD, MINOR ROTATION: CROP YIELDS IN SOIL EXPERIMENTS

Plot No.	Soil treatment applied	1913					1914					1915				
		Bushels of potatoes and tons of hay per acre					Bushels of potatoes and tons of hay per acre					Bushels of potatoes and tons of hay per acre				
		Potatoes ¹ Series 500	Potatoes ¹ Series 500	Alfalfa ² Series 600	Alfalfa ² Series 700	Alfalfa ² Series 800	Barley hay ¹ Series 500	Potatoes Series 600	Alfalfa ² Series 700	Alfalfa ² Series 800	Potatoes Series 600	Alfalfa ² Series 700	Alfalfa ² Series 800			
1 N	K.....	109.2	87.0	6.82	5.63	5.39	.94	95.5	4.91	4.64						
1 S	0.....							110.3	4.68	4.52						
2 N	MK.....	124.8	120.2	6.30	5.39	5.45	1.71	177.2	4.71	4.76						
2 S	M.....							151.2	4.70	4.50						
3 N	MLK.....	127.9	106.3	6.33	5.91	5.40	1.70	162.5	4.81	4.62						
3 S	ML.....							130.0	5.06	4.56						
4 N	MLPK.....	134.7	119.1	6.09	5.39	6.08	1.51	147.3	4.89	5.09						
4 S	MLP.....							96.0	4.77	4.72						
												Average				
												Annual yield potatoes 3 crops				
												61.0				
												60.7				
												114.3				
												101.0				
												108.3				
												94.2				
												101.6				
												87.3				

GENERAL NOTES.—On Series 500, 600, 700, and 800, potatoes and alfalfa are grown in rotation, potatoes being grown for two years on the same series, while alfalfa is grown six years. Limestone is used at the rate of 4 tons per acre before seeding alfalfa. Rock phosphate at the rate of 2 tons per acre is applied with 15 tons of manure for the first crop of potatoes; the manure application is repeated for the second potato crop. Potassium is supplied in 200 pounds of potassium sulfate for the potatoes.

¹No potassium. ²No manure or potassium.

TABLE 20.—DUBOIS FIELD: CROP YIELDS IN SOIL EXPERIMENTS
GRAY SILT LOAM ON TIGHT CLAY, PRAIRIE; LOWER ILLINOISAN GLACIATION

Plot No.	Soil ¹ treatment applied	Bushels or (tons) per acre															
		1902 Corn	1903 Oats	1904 Wheat	1905 Clover	1906 Corn	1907 Oats	1908 Wheat	1909 Soy- beans	1910 Corn	1911 Oats	1912 Clover	1913 Wheat	1914 Corn	1915 Oats	1916 Clover	1917 Wheat
Land Not Tile-drained																	
101	0.....	6.4	9.4	6.3	(1.25)	30.3	18.8	8	3.5	25.8	13.1	(.46)	7.7	1.0	18.8	(.62)	4.0
102	L.....	6.7	16.2	6.5	(1.57)	35.2	28.8	8.0	6.7	26.2	24.1	(.40)	8.7	1.4	35.3	(.47)	18.0
103	RL.....	5.9	18.1	11.0	(1.78)	38.0	38.1	8.5	7.2	33.6	31.9	.92	14.7	3.0	46.2	.67	24.3
104	LP.....	13.4	25.9	25.0	(2.42)	38.7	43.8	17.8	8.5	17.6	40.9	(1.02)	21.0	2.6	52.5	(.72)	34.2
105	LK.....	11.6	27.5	16.2	(2.22)	48.8	37.2	14.8	9.3	65.6	29.1	(.81)	16.8	1.4	46.2	(.54)	29.3
106	LRP.....	9.3	25.0	32.7	(2.30)	32.3	46.6	19.8	8.2	30.0	35.9	2.42	29.7	.6	47.8	1.33	40.0
107	LRK.....	6.8	23.8	20.2	(2.34)	43.6	43.8	16.5	7.8	67.6	29.1	3.92	21.0	.6	50.3	.83	31.8
108	LPK.....	12.4	30.0	27.5	(2.86)	48.9	50.0	20.8	9.5	73.2	35.3	(1.34)	30.2	1.0	54.7	(1.21)	45.2
109	LRPK...	10.4	29.1	33.3	(2.83)	46.3	46.6	19.7	7.8	73.2	38.8	3.00	30.2	1.0	50.0	1.17	44.0
110	RPK....	2.0	25.6	27.3	(2.59)	39.9	36.9	10.0	6.3	66.8	26.6	1.67	10.7	.6	33.8	2.50	34.2
Land Tile-drained																	
111	0.....	1.4	17.2	3.3	(1.29)	32.5	13.1	4.3	3.3	27.4	12.2	(.40)	6.7	.6	18.8	(.48)	11.5
112	L.....	3.3	17.2	11.5	(1.72)	33.6	23.8	11.0	6.2	29.0	19.4	(.66)	16.5	1.8	37.2	(.68)	24.5
113	LR.....	2.7	20.6	9.2	(1.79)	31.7	30.0	14.5	6.7	36.6	27.2	1.83	21.5	3.2	46.6	.83	29.7
114	LP.....	6.5	27.5	28.3	(2.27)	29.7	31.9	19.2	7.2	22.2	30.9	(.71)	22.8	1.6	54.1	(.86)	35.8
115	LK.....	4.9	27.2	14.7	(2.16)	47.5	46.3	16.2	7.8	64.2	26.6	(.85)	21.8	1.6	48.8	(.63)	17.0
116	LRP.....	8.0	33.8	31.2	(2.44)	30.5	45.9	19.5	8.8	39.4	35.6	2.50	37.2	1.2	62.8	2.33	44.7
117	LRK.....	7.3	27.2	23.3	(2.52)	48.3	39.1	18.5	10.2	74.6	32.2	2.75	28.8	2.2	50.3	1.33	38.8
118	LPK.....	14.1	25.6	32.2	(2.95)	55.2	44.2	23.0	10.3	76.4	33.4	(1.31)	30.8	2.2	55.3	(1.22)	42.2
119	LRPK...	10.4	31.9	30.5	(2.89)	51.6	42.4	21.3	11.3	75.8	38.8	2.33	29.5	4.2	37.8	1.83	44.7
120	RPK....	4.8	33.1	28.2	(2.79)	50.7	35.3	12.0	6.7	65.4	28.1	1.83	24.0	1.8	45.6	2.67	18.3

¹Commercial nitrogen used in place of residues until 1906.

TABLE 21.—DUBOIS FIELD: GENERAL SUMMARY

Plot No.	Soil treatment applied	Average annual yields—bushels per acre		
		Corn 4 crops	Oats 4 crops	Wheat 4 crops
Land Not Tile-drained				
101	O.....	15.9	15.0	4.7
102	L.....	17.4	26.1	10.3
103	LR.....	20.1	33.6	14.6
104	LP.....	18.1	40.8	24.5
105	LK.....	31.9	35.0	19.3
106	LRP.....	18.0	38.8	30.6
107	LRK.....	29.7	36.8	22.4
108	LPK.....	33.9	42.5	30.9
109	LRPK.....	32.7	41.1	31.8
110	RPK.....	27.3	30.7	20.6
Land Tile-drained				
111	O.....	15.5	15.3	6.4
112	L.....	16.9	24.4	15.9
113	LR.....	18.6	31.1	18.7
114	LP.....	15.0	36.1	26.5
115	LK.....	29.6	37.2	17.4
116	LRP.....	19.8	44.5	33.1
117	LRK.....	33.1	37.2	27.3
118	LPK.....	37.0	39.7	32.0
119	LRPK.....	35.5	37.7	31.5
120	RPK.....	30.7	35.5	20.6

GENERAL NOTES.—The original rotation of corn, oats, wheat, clover was changed in 1911 to corn, oats, clover, and wheat with legume seeding. Until 1905 the nitrogen was supplied in 800 pounds of dried blood per acre per year; thereafter all crop residues were returned to the land. The phosphorus has been applied in 200 pounds of steamed bone meal and potassium in 100 pounds of potassium sulfate per acre per year.

TABLE 22.—ENFIELD FIELD: CROP YIELDS IN SOIL EXPERIMENTS
YELLOW-GRAY SILT LOAM, TIMBER SOIL; LOWER ILLINOISAN GLACIATION

Plot No.	Soil treatment applied	1913	1914	1915	1916	1917
		Cowpeas ¹	Wheat ²	Corn	Oats	Soybeans
Bushels or (tons) per acre						
101	0.....	(.19)	8.2	23.2	13.3	(.99)
102	M.....	(.16)	9.6	38.9	16.6	(1.14)
103	ML.....	(.13)	8.3	45.8	19.4	(1.62)
104	MLP.....	(.09)	13.2	50.4	17.2	(1.96)
105	0.....	(.10)	7.0	28.8	9.1	5.0
106	R.....	....	8.0	32.8	8.3	5.0
107	RL.....	....	11.4	45.2	14.1	13.5
108	RLP.....	....	16.2	48.4	14.4	15.6
109	RLPK.....	....	18.6	44.8	18.3	15.0
110	0.....	(.22)	13.2	38.5	9.7	(1.22)
		Oats ¹	Soybeans ³	Wheat ³	Corn	Oats
201	0.....	3.1	(.57)	10.1	26.6	20.0
202	M.....	3.8	(.60)	12.8	37.1	27.5
203	ML.....	4.2	(.77)	13.7	49.3	35.3
204	MLP.....	4.4	(.86)	23.6	53.6	37.5
205	0.....	2.3	4.8	7.8	30.3	22.0
206	R.....	3.0	4.8	13.8	35.2	20.0
207	RL.....	4.1	4.8	15.2	50.1	36.2
208	RLP.....	3.8	4.9	21.1	52.5	40.3
209	RLPK.....	5.0	4.8	22.0	54.8	44.4
210	0.....	7.8	(.76)	20.1	42.0	25.2
		Corn ²	Oats	Soybeans	Wheat	Corn
301	0.....	19.0	2.8	....	.9	13.6
302	M.....	19.6	3.0	(.07)	2.0	14.4
303	ML.....	26.5	3.3	(.19)	8.4	44.2
304	MLP.....	30.9	3.4	(.09)	11.0	46.8
305	0.....	21.4	1.1	....	1.8	20.3
306	R.....	23.7	1.3	....	2.0	26.3
307	RL.....	29.3	1.6	....	5.7	69.8
308	RLP.....	26.2	1.1	....	15.8	69.6
309	RLPK.....	21.8	1.3	....	11.7	74.0
310	0.....	17.3	.8	....	3.4	36.9
		Wheat ³	Corn	Oats	Clover	Wheat
401	0.....	13.0	24.3	24.7	(.52)	8.3
402	M.....	5.4	28.5	22.5	(.35)	6.2
403	ML.....	6.5	32.6	33.3	(1.66)	28.2
404	MLP.....	5.7	32.4	30.9	(1.43)	23.2
405	0.....	3.7	19.3	20.3	0.00	4.2
406	R.....	7.1	11.1	24.4	.33	8.2
407	RL.....	7.2	14.4	28.6	1.58	23.2
408	RLP.....	9.8	14.7	33.4	1.75	32.1
409	RLPK.....	14.8	20.5	36.4	1.42	31.3
410	0.....	7.1	19.8	30.8	(.49)	5.0

¹No manure or residues. ²No residues. ³No manure.

TABLE 24.—EWING FIELD: CROP YIELDS IN SOIL EXPERIMENTS
GRAY SILT LOAM ON TIGHT CLAY, PRAIRIE; LOWER ILLINOISAN GLACIATION

Plot No.	Soil treatment applied	1910	1911	1912	1913	1914	1915	1916	1917
		Wheat ¹	Corn	Oats	Clover	Wheat	Corn	Oats	Soy-beans
Bushels or (tons) per acre									
101	O.....	10.4	16.2	12.0	(.20)	1.7	24.1	5.0	(.51)
102	M.....	14.2	26.8	19.1	(.24)	3.4	38.1	9.4	(.61)
103	ML.....	9.9	27.5	28.3	(.40)	16.2	60.7	19.7	(1.00)
104	MLP....	8.0	30.2	34.4	(.81)	22.5	57.4	21.9	(1.26)
105	O.....	6.8	12.7	14.4	0	.9	17.7	3.8	2.0
106	R.....	8.6	13.2	16.4	0	.8	15.0	4.8	1.8
107	RL.....	8.5	23.0	30.8	.50	12.8	46.7	11.2	9.6
108	RLP....	10.7	20.8	33.4	1.08	17.6	42.5	14.2	10.7
109	RLPK...	17.9	26.0	37.2	.75	25.8	56.4	22.5	12.6
110	O.....	9.7	15.8	11.4	(.31)	1.2	23.4	4.7	(.66)
		Cow-peas ¹	Wheat ²	Corn	Oats	Soy-beans	Wheat	Corn	Oats
201	O.....	(.89)	10.7	24.7	1.7	(.27)	5.3	21.4	18.3
202	M.....	(.97)	12.8	39.8	3.9	(.23)	8.2	40.1	25.2
203	ML.....	(1.05)	17.3	52.1	7.3	(.47)	18.1	57.0	37.0
204	MLP....	(1.19)	23.8	50.7	6.9	(.53)	23.6	58.6	40.9
205	O.....	(1.02)	11.9	30.7	.6	2.0 ⁵	4.9	24.3	17.5
206	R.....	...	9.9	33.1	2.5	2.3	4.9	19.6	18.8
207	RL.....	...	20.5	48.3	8.4	4.0	19.1	51.5	34.7
208	RLP....	...	23.7	45.0	9.2	4.0	17.7	51.6	36.6
209	RLPK...	...	28.1	51.6	12.5	4.2	27.8	64.0	47.0
210	O.....	(.87)	12.0	31.7	3.3	(.32) ⁵	4.2	31.1	18.1
		Oats ¹	Cow-peas ²	Wheat ²	Corn	Oats	Soy-beans	Wheat	Corn
301	O.....	37.1	(.25)	1.8	6.0	3.0	2.0	.3	6.4
302	M.....	43.1	(.23)	2.3	10.3	3.4	1.8	.4	24.4
303	ML.....	42.6	(.34)	4.9	20.8	5.6	6.6	5.6	54.1
304	MLP....	45.3	(.38)	3.0	23.9	6.4	7.7	6.8	58.9
305	O.....	32.8	1.6	.8	5.6	1.4	1.7	.2	12.6
306	R.....	37.8	1.2	.8	6.2	3.3	2.5	.2	17.1
307	RL.....	39.2	2.4	4.3	22.5	5.9	7.5	7.4	35.7
308	RLP....	35.6	3.2	3.2	21.8	5.3	6.4	4.8	45.9
309	RLPK...	36.7	4.0	4.3	26.8	6.6	8.2	6.9	63.8
310	O.....	44.2	(.25) ⁴	2.8	6.1	1.4	3.8	.5	13.1
		Corn ¹	Oats ²	Cow-peas ²	Wheat ²	Corn	Oats	Clover	Oats ²
401	O.....	30.8	17.7	(.76)	.8	4.3	9.7	(.35)	15.5
402	M.....	35.1	29.2	(.66)	.8	4.5	16.9	(.46)	15.3
403	ML.....	36.4	31.3	(1.26)	11.8	7.6	37.5	(1.66)	39.4
404	MLP....	40.4	32.0	(1.38)	11.3	6.3	49.4	(1.94)	47.3
405	O.....	37.3	23.9	.90	.9	3.5	12.3	00	22.5
406	R.....	38.4	21.8	...	1.1	2.7	13.8	00	27.3
407	RL.....	51.7	42.7	...	16.0	3.1	43.9	1.25	58.1
408	RLP....	50.7	36.7	...	14.9	3.6	44.5	1.58	62.8
409	RLPK...	47.6	42.8	...	27.2	6.4	45.3	1.58	65.5
410	O.....	43.6	23.9	(.0)	2.5	2.7	16.2	(.47)	32.3

¹No manure or residues. ²No manure. ³Wheat winter-killed. ⁴Estimated.

⁵Yields from Plots 5 and 10 interchanged.

TABLE 23.—ENFIELD FIELD: GENERAL SUMMARY, FULLY TREATED PLOTS

Serial plot No.	Soil treatment applied	Average annual yield —bushels per acre		
		Corn 4 crops	Oats 4 crops	Wheat ¹ 4 crops
1	0.....	21.9	15.2	6.9
2	M.....	29.7	17.4	7.7
3	ML.....	43.0	22.8	14.7
4	MLP.....	45.8	22.2	17.8
5	0.....	24.7	13.1	5.2
6	R.....	26.3	13.5	8.0
7	RL.....	44.9	20.1	13.9
8	RLP.....	46.3	22.3	21.3
9	RLPK.....	48.5	25.1	20.9
10	0.....	34.3	16.6	10.4

NOTE.—The rotation and soil treatment are standard, as described in the introduction.

¹No manure on 1914 and 1915 wheat.

TABLE 25.—EWING FIELD: GENERAL SUMMARY, FULLY TREATED PLOTS

Serial plot No.	Soil treatment applied	Average annual yields—bushels or (tons) per acre				
		Corn 7 crops	Oats 7 crops	Wheat 3 crops	Clover 2 crops	Soybeans 3 crops
1	0.....	14.7	9.3	2.4	(.28)	(.33)
2	M.....	26.3	17.7	4.0	(.35)	(.34)
3	ML.....	40.0	25.0	13.3	(1.03)	(.71)
4	MLP.....	40.9	29.6	17.6	(1.38)	(.85)
5	0.....	15.3	10.4	2.0	.10	1.9
6	R.....	15.3	12.4	2.0	.00	2.2
7	RL.....	33.0	27.6	13.1	.89	7.0
8	RLP.....	33.0	29.4	13.4	1.33	7.0
9	RLPK.....	42.1	33.8	20.2	1.17	8.3
10	0.....	17.7	12.5	2.0	(.39)	(.45)

NOTE.—The crop rotation and soil treatment are standard, as described in the introduction.

TABLE 26.—FAIRFIELD FIELD: CROP YIELDS IN SOIL EXPERIMENTS
GRAY SILT LOAM ON TIGHT CLAY, PRAIRIE; LOWER ILLINOISAN GLACIATION

Plot No.	Soil treatment applied	Bushels or (tons) per acre											
		1906 Soy-beans	1907 Wheat	1908 Clover	1909 Soy-beans	1910 Soy-beans	1911 Wheat	1912 Clover	1913 Corn	1914 Soy-beans	1915 Wheat	1916 Soy-beans ⁴	1917 Corn
Land Tile-drained													
103	RLP	26.5	15.1	(1.02)	31.2	20.1	13.2	.35	2.9	12.4	7.9	19.2	43.6
106	RLP	43.5	15.6	(1.02)	33.7	21.6	16.1	.35	1.6	12.4	7.2	19.5	51.1
109	R	51.3	11.8	(.90)	48.5	18.5	4.8	.15	11.4	10.4	0.0	13.7	65.3
110	M	57.0	3.8	(.65)	39.4	(1.54)	5.3	(.70)	7.1	(.77)	0.0	(0.0)	41.8
113	MLP	57.0	19.8	(1.55)	39.0	(2.14)	25.6	(2.19)	2.6	(1.18)	5.4	(1.60)	55.0
116	MLP	67.5	17.9	(1.22)	41.6	(2.06)	26.3	(2.19)	5.0	(1.21)	4.7	(1.60)	62.9
Land Not Tile-drained													
123	RLP	23.6	13.1	.90	37.9	20.8	11.1	.39	3.3	13.8	2.7	15.6	44.5
126	RLP	28.4	8.4	1.32	25.3	19.5	4.2	.39	1.3	14.4	.6	13.6	24.7
129	R	13.1	0.0	.67	17.7	10.3	.7	.00	1.8	6.4	.0	2.3	7.5
130	M	47.0	1.5 ¹	.63	18.7	(1.02)	.7	(.34)	3.7	(.51)	0.0	(0.0)	13.0
133	MLP	59.6	12.0	1.80	30.0	(1.74)	10.6	(1.72)	1.1	(1.07)	2.7	(1.33)	35.9
136	MLP	59.1	14.3	1.55	36.9	(1.84)	18.3	(1.72)	2.7	(.98)	.6	(1.33)	51.6
Land Tile-drained													
203	RLP	3.0	(.47)	22.4	3.9	29.4	0.0	40.7	13.9	14.6	17.2	11.3	12.6
206	RLP	2.4	(.52)	22.2	3.9	30.0	0.0	38.1	12.8	14.5	16.9	10.7	12.9
209	R	3.3	(.20)	28.5	8.3	20.2	0.0	22.3	9.8	8.8	11.8	20.7	11.6
210	M	1.6	(.51)	37.9	8.4	20.9	(.41) ³	22.3	(.92)	12.3	(1.01)	16.9	(1.13)
213	MLP	1.8	(.90)	39.0	6.6	38.1	(.99)	60.6	(1.12)	23.2	(1.88)	11.5	(1.35)
216	MLP	1.8	(.78)	35.3	6.8	36.8	(.99)	54.5	(.99)	20.0	(1.82)	7.8	(1.34)
Land Not Tile-drained													
223	RLP	2.7	(.80)	30.9	4.6	31.6	0.0	29.7	12.3	15.3	12.0	14.0	10.7
226	RLP	2.9	(.76)	21.2	4.9	28.6	0.0	7.4	11.3	12.1	13.5	12.1	9.1
229	R	2.2	(.61)	15.6	3.8	7.2	0.0	1.6	7.8	.6	5.9	14.0	8.8
230	M	1.6	(.66)	30.2	6.4	16.4	(.39) ³	4.0	(.71)	2.7	(.72)	11.9	(.70)
233	MLP	.8	(.85)	38.3	7.7	35.2	(.85)	22.0	(1.16)	17.2	(2.01)	18.2	(1.40)
236	MLP	2.9	(1.20)	40.3	7.1	36.7	(.85)	23.8	(1.22)	19.3	(2.04)	16.9	(1.40)

TABLE 26.—FAIRFIELD, *Concluded*

Plot No.	Soil treatment applied	Bushels or (tons) per acre												
		1905 Corn	1906 Clover	1907 Corn	1908 Cow-peas	1909 Oats	1910 Clover	1911 Corn	1912 Soy-beans	1913 Wheat	1914 Soy-beans	1915 Corn	1916 Soy-beans	1917 Wheat
Land Tile-drained														
303	RLP	...	(.09)	40.8	5.7	37.5	1.45	34.3	(1.58)	14.3	15.4	46.8	7.6	27.2
306	RLP	...	(.15)	37.2	9.6	34.2	1.45	34.9	(1.80)	14.3	19.2	41.3	7.3	20.3
309	R	...	(.10)	32.1	4.7	25.8	0.0	25.9	(.53)	.6	7.3	24.9	6.3	5.5
310	M	...	(.25)	35.3	5.4	30.8	(.76) ³	30.5	(1.29)	3.1	(.87)	24.6	(.90)	14.0
313	MLP	...	(.40)	50.5	10.3	30.2	(3.95)	39.8	(1.66)	19.8	(1.48)	44.6	(1.15)	30.2
316	MLP	...	(.48)	48.5	12.7	44.4	(3.95)	36.6	(2.68)	25.7	(1.62)	49.4	(.88)	34.4
Land Not Tile-drained														
323	RLP	...	(.49)	39.0	8.4	33.6	1.96	34.0	(1.87)	14.0	13.7	47.1	6.9	30.8
326	RLP	...	(.51)	51.8	9.5	37.8	1.96	39.2	(1.56)	17.0	14.9	51.0	8.4	36.1
329	R	...	(.20)	34.2	5.3	29.9	0.0	24.2	(.97)	2.2	10.0	30.1	7.4	13.0
330	M	...	(.39)	42.1	7.4	34.2	(1.06) ³	31.8	(.99)	3.2	(1.11)	36.5	(.82)	17.3
333	MLP	...	(.40)	52.7	9.0	32.5	(3.70)	34.0	(2.15)	15.0	(1.64)	46.2	(1.12)	33.6
336	MLP	...	(.56)	52.0	9.7	47.5	(3.70)	28.8	(2.04)	16.6	(1.61)	46.0	(.92)	27.7
Land Not Tile-drained														
			Corn	Cow-peas	Wheat	Cow-peas	Corn	Soy-beans	Wheat	Soy-beans	Corn ⁵	Soy-beans	Wheat	Soy-beans
403	RLP	...	34.8	3.5	16.0	5.0	55.1	10.6	12.5	9.9	...	18.0	14.9	9.1
406	RLP	...	38.2	3.1	14.0	7.2	60.9	12.3	13.2	10.5	...	20.1	10.3	8.9
409	R	...	32.6	3.2	5.3	7.2	44.4	11.5	1.7	9.9	...	7.6	0.0	6.2
410	M	...	41.0	3.4	10.6	6.9	43.8	10.2	2.1	(.65)	...	(.77)	0.3	(.95)
413	MLP	...	50.8	8.2	21.8	6.7	66.9	14.7	13.3	(.91)	...	(1.83)	30.7	(1.28)
416	MLP	...	49.2	7.7	21.3	6.5	64.9	15.2	13.1	(.86)	...	(1.85)	27.1	(1.49)
Land Not Tile-drained														
423	RLP	...	47.2	8.0	14.9	5.8	60.9	11.7	14.0	13.4	...	13.6	14.8	8.8
426	RLP	...	38.6	2.4	10.0	4.8	57.7	13.4	9.3	11.0	...	13.8	11.1	8.7
429	R	...	33.0	1.8	2.8	6.5	37.6	9.1	1.0	7.5	...	4.5	0.0	4.9
430	M	...	40.3	2.2	1.4	5.4	47.5	8.8	1.1	(.55)	...	(.62)	0.0	(.83)
433	MLP	...	48.8	6.6	15.1	4.7	63.6	10.6	13.6	(.82)	...	(1.90)	26.9	(1.27)
436	MLP	...	53.0	4.3	16.3	6.0	65.1	15.5	10.4	(.90)	...	(1.87)	23.9	(1.38)

¹Estimated. ²Mostly red top. ³Mostly weeds and fowl grass. ⁴Sweet clover on manure plots. ⁵Crop failure.

TABLE 27.—FAIRFIELD FIELD: GENERAL SUMMARY

Serial plot No.	Soil treatment applied	Average annual yields—bushels or (tons) per acre				
		Corn 13 crops	Wheat 11 crops	Clover 7 crops ¹	Soybeans or cowpeas 19 crops ²	Oats 1 crop
Land Tile-drained						
3	RLP.....	30.0	15.1	.56	10.7	37.5
6	RLP.....	31.8	14.2	.58	11.6	34.2
9	R.....	20.9 ³	5.4	.22	8.3	25.8
10	M.....	30.7	6.7	(.47)	(.81)	30.8
3	MLP.....	39.8	20.9	(1.65)	(1.17)	32.2
6	MLP.....	40.2	20.8	(1.60)	(1.23)	44.4
Land Not Tile-drained						
3	RLP.....	31.9	15.0	.75	10.6	33.6
6	RPL.....	27.6	12.6	.82	9.7	37.8
9	R.....	17.7	2.5	.25	6.0	29.9
10	M.....	25.1	4.2	(.50)	(.65)	34.2
3	MLP.....	34.6	16.6	(1.52)	(1.13)	32.5
6	MLP.....	36.7	17.2	(1.57)	(1.16)	47.5

GENERAL NOTES.—The Fairfield field is operated primarily for the investigation of crop problems. There are, however, standard plots on all series on which manures, phosphate, and limestone are applied, as described in the introduction. The rotation consists of corn, cowpeas or soybeans, wheat, and clover. Cowpeas or soybeans are substituted in case of clover failure, and oats are substituted when wheat fails.

¹Six crops in residue system.

²Eighteen crops in manure system.

³Corn yields from Plot 129 are substituted for those from abnormal Plot 109 in making this average.

TABLE 28.—GALESBURG FIELD: CROP YIELDS IN SOIL EXPERIMENTS
BROWN SILT LOAM PRAIRIE; UPPER ILLINOISAN GLACIATION

Plot No.	Soil treatment applied	Bushels or (tons) per acre													
		1904 Corn ¹	1905 Corn ²	1906 Oats ³	1907 Wheat ³	1908 Clover ²	1909 Timoth ^y	1910 Corn	1911 Corn	1912 Oats	1913 Clover	1914 Wheat	1915 Soy-beans	1916 Corn	1917 Corn
101	L.....	63.8	52.5	53.8	34.0	(2.71)	(2.04)	59.8	66.5	53.3	(2.64)	28.6	(1.12)	29.5	33.7
102	RL.....	67.3	49.8	53.6	41.4	.96	(3.83)	72.6	75.1	56.9	..	33.2	14.9	38.2	52.1
103	ML.....	64.7	48.1	50.3	31.6	(2.59)	(1.83)	77.6	81.0	60.0	(3.18)	36.2	(1.20)	46.4	59.7
104	CvML.....	65.3	46.5	46.7	32.8	(2.61)	(1.70)	77.9	78.9	70.2	(3.05)	34.3	(1.25)	51.2	58.9
105	L.....	74.7	54.9	52.3	35.1	(2.80)	(2.05)	66.2	67.4	60.8	(2.80)	31.0	(1.05)	32.4	45.3
106	LP.....	78.2	66.1	53.9	41.9	(3.18)	(2.58)	72.4	79.4	68.6	(3.54)	46.4	16.2	40.7	53.5
107	RLP.....	75.9	63.1	55.0	41.3	.67	(4.92)	78.0	83.8	65.2	..	44.9	16.2	42.0	55.8
108	MLP.....	72.6	61.1	54.2	37.9	(3.18)	(2.36)	74.6	79.8	77.3	(3.19)	37.5	(1.40)	44.9	62.7
109	CvMLP.....	74.1	60.0	54.2	40.0	(3.15)	(2.33)	74.0	79.1	74.4	(3.75)	39.2	(1.50)	45.5	57.9
110	L.....	72.4	58.8	50.5	32.7	(2.65)	(1.74)	61.5	59.2	54.5	..	30.8	..	24.8	33.9
111	LPK.....	81.2	72.3	53.9	36.6	(3.21)	(2.42)	74.5	81.1	70.9	(3.88)	41.0	14.8	41.9	56.5
112	RLPK.....	82.3	71.0	59.4	41.1	.58	(5.00)	81.9	83.7	59.5	..	41.7	16.6	49.1	60.2
113	MLPK.....	77.1	72.2	52.8	36.1	(3.45)	(2.49)	77.6	82.4	74.4	(3.81)	41.5	(1.37)	45.9	58.4
114	CvMLPK.....	89.4	69.9	54.5	38.7	(3.36)	(2.55)	75.9	85.0	70.0	(4.02)	40.8	(1.25)	48.2	65.0
115	L.....	81.2	68.1	62.8	36.8	(2.99)	(2.19)	59.4	67.3	53.0	(2.59)	23.3	(1.07)	26.9	28.8
116	R.....	77.1	61.8	57.3	38.2	1.17	(5.33)	70.6	68.9	52.0	..	28.8	15.4	34.7	43.2
117	RP.....	79.4	64.2	60.0	36.2	1.25	(5.50)	75.0	77.5	66.1	..	49.8	15.3	46.0	51.4
118	RLPK.....	82.3	70.8	52.0	40.9	1.38	(4.75)	78.3	78.4	68.1	..	53.3	17.3	58.7	54.0
119	RP.....	87.1	76.3	66.2	46.0	1.08	(5.00)	74.8	79.3	67.3	..	49.6	17.9	66.7	72.5
120	0.....	82.9	65.1	65.3	45.8	(1.21)	(2.82)	72.7	67.4	70.2	(2.58)	40.4	(1.13) ³	47.7	54.6

¹No manure, cover crop or residues. ²No manure. ³Estimated.

TABLE 28.—GALESBURG FIELD, Continued

Plot No.	Soil treatment applied	Bushels or (tons) per acre										1917 Soy-beans			
		1904 Oats ¹	1905 Wheat ¹	1906 Clover ¹	1907 Timothy ¹	1908 Corn	1909 Corn	1910 Oats	1911 Clover	1912 Wheat	1913 Clover		1914 Corn	1915 Corn	1916 Oats
201	L.....	57.5	40.5	(.72)	(2.30)	79.8	54.1	48.0	(1.39)	17.5	(2.27)	25.1	38.8	42.5	(1.32)
202	RL.....	55.0	40.0	(.63)	(1.31)	78.8	51.9	43.3	..64)	21.1	..28)	37.6	49.2	42.2	17.0
203	ML.....	52.5	38.5	(.57)	(2.55)	101.3	65.6	50.6	(2.32)	21.7	(2.28)	42.8	58.1	45.6	(2.26)
204	CvML.....	55.0	40.2	(.63)	(2.73)	102.7	66.8	53.0	(2.29)	19.6	(2.39)	40.6	56.7	35.6	(1.89)
205	L.....	67.5	42.2	(1.22)	(2.84)	86.3	54.4	44.4	..22)	18.2	(2.54)	30.6	48.8	44.7	(1.82)
206	LP.....	62.5	41.3	(1.36)	(3.27)	99.6	59.1	55.5	(2.42)	27.3	(2.83)	36.5	55.4	43.1	14.8
207	RLP.....	57.5	42.2	(.90)	(1.79)	105.6	49.4	48.6	..30)	27.3	..87)	43.1	56.7	42.2	18.0
208	MLP.....	60.0	40.0	(.91)	(3.18)	106.6	69.8	58.6	(2.03)	27.3	(2.87)	41.6	67.7	30.8	(2.03)
209	CvMLP.....	50.0	39.0	(.91)	(3.16)	105.8	75.7	60.3	(1.14)	27.8	(2.75)	38.5	68.9	37.2	(1.80)
210	L.....	57.5	37.5	(.69)	(2.46)	84.5	57.8	42.3	..11)	12.2	..	29.0	40.1	41.1	14.0
211	LPK.....	55.0	38.7	(1.31)	(3.38)	95.7	67.0	55.3	(2.01)	28.2	(2.63)	35.8	60.7	43.1	16.1
212	RLPK.....	65.0	39.3	(1.40)	(2.15)	103.3	57.5	53.8	..55)	28.3	..81)	41.1	62.4	44.2	16.4
213	MLPK.....	65.0	41.5	(1.79)	(3.62)	98.1	69.8	58.3	(2.46)	25.9	(3.02)	30.3	64.2	33.1	(2.11)
214	CvMLPK.....	62.5	40.7	(1.51)	(3.48)	102.8	73.2	62.8	(.98)	25.3	(3.02)	37.5	64.9	32.8	(1.93)
215	L.....	60.0	35.5	(.83)	(2.33)	84.1	58.2	41.6	..	8.8	(2.27)	25.6	44.9	40.2	(1.58)
216	R.....	72.5	37.0	(.82)	(1.37)	87.3	54.8	38.6	..	11.8	..	28.7	46.5	38.1	8.1
217	RP.....	57.5	38.7	(.85)	(1.44)	98.6	49.6	43.4	..	22.1	..	38.9	53.5	43.6	16.8
218	RPK.....	50.0	40.7	(1.51)	(2.17)	99.0	47.0	46.3	..	28.3	..	36.4	64.0	45.2	14.8
219	RLNPK.....	57.5	37.7	(1.21)	(1.98)	109.6	43.2	57.6	..	27.3	..	39.8	65.7	38.1	18.6
220	0.....	55.0	39.5	(.71)	(2.49)	88.3	49.5	38.1	(1.00)	15.6	(2.24)	18.9	38.6	28.3	(1.51)

TABLE 28.—GALESBURG FIELD, Concluded

Plot No.	Soil treatment applied	Bushels or (tons) per acre													
		1904 Timo- thy ¹	1905 Timo- thy ¹	1906 Corn ¹	1907 Corn ²	1908 Oats ²	1909 Wheat ²	1910 Wheat	1911 Clover	1912 Corn	1913 Corn	1914 Oats	1915 Soy- beans	1916 Bar- ley	1917 Soy- beans
301	L.....	(1.36)	(1.54)	66.8	75.9	28.6	31.7	16.2	(2.17)	70.8	36.6	29.8	(1.36)	22.5	(.84)
302	RL.....	(1.38)	(1.59)	68.6	77.7	26.6	33.8	19.4	(2.57)	89.6	37.2	40.8	17.3	27.1	5.8
303	ML.....	(1.30)	(1.92)	72.0	80.3	28.3	36.3	19.6	(2.03)	104.3	40.9	34.1	(1.49)	25.5	(1.29)
304	CvML.....	(1.38)	(2.02)	75.6	83.1	26.1	40.4	22.3	(1.83)	103.3	42.9	35.2	(1.58)	25.6	(1.42)
305	L.....	(1.20)	(1.75)	70.5	78.3	22.5	36.6	21.2	(2.64)	92.1	38.9	36.1	(1.30)	21.7	(.90)
306	LP.....	(1.21)	(1.65)	69.7	84.4	32.7	40.6	22.2	(3.25)	98.2	42.9	37.6	17.7	24.2	7.9
307	RLP.....	(1.16)	(1.55)	74.0	84.1	27.5	41.2	24.1	(3.13)	103.2	44.5	50.3	19.2	29.8	8.9
308	MLP.....	(1.25)	(1.63)	73.9	86.1	33.9	39.7	21.6	(2.74)	107.9	45.3	35.5	(1.67)	26.8	(1.49)
309	CvMLP.....	(1.55)	(2.03)	83.9	87.8	28.9	44.9	24.9	(3.59)	106.0	49.0	27.3	(1.68)	33.0	(1.52)
310	L.....	(1.75)	(2.25)	84.3	85.6	31.6	39.8	22.4	(3.57)	93.0	45.5	32.2	18.8	23.0	6.2
311	LPK.....	(2.10)	(2.41)	86.9	87.8	32.3	44.3	24.5	(2.47)	101.9	39.1	22.8	23.3	22.7	7.9
312	RLPK.....	(1.55)	(1.91)	75.8	81.2	25.9	41.8	23.2	(3.28)	98.4	44.5	37.3	21.2	38.4	9.2
313	MLPK.....	(1.16)	(1.53)	68.4	77.9	31.3	35.8	23.0	(3.57)	108.8	44.3	28.4	(1.98)	29.7	(1.55)
314	CvMLPK.....	(1.50)	(1.52)	70.6	81.7	27.7	42.0	23.1	(2.47)	106.9	46.8	21.4	(1.82)	35.1	(1.68)
315	L.....	(1.90)	(1.97)	74.1	85.1	30.6	36.8	21.6	(2.47)	90.6	31.1	26.9	(1.48)	25.5	(1.13)
316	R.....	(1.82)	(1.82)	67.7	80.6	26.7	34.2	22.9	....	82.1	35.0	37.2	17.8	33.3	8.6
317	RP.....	(1.95)	(2.00)	59.1	83.3	31.1	44.9	27.0	....	99.2	38.9	46.2	19.2	31.5	5.5
318	RPK.....	(2.18)	(2.18)	66.8	77.6	25.8	43.3	29.1	....	113.2	42.8	55.5	20.2	32.6	4.9
319	RLNPK.....	(4.15)	(2.37)	71.2	84.7	32.7	43.8	24.9	....	104.1	37.5	43.1	25.2	39.1	7.9
320	0.....	(1.46)	(1.56)	59.6	72.8	31.3	28.5	15.8	(1.46)	79.1	27.8	25.0	(1.33) ³	24.9	(.60)

¹No manure, cover crop or residues. ²No manure. ³Estimated.

TABLE 29.—GALESBURG FIELD: GENERAL SUMMARY, FULLY TREATED PLOTS

Serial plot No.	Soil treatment applied	Average annual yields—bushels or (tons) per acre					
		Corn 10 crops	Oats 4 crops	Wheat 3 crops	Clover 4 crops	Soy-beans 4 crops	Barley 1 crop
1	L.....	49.1	43.4	20.8	(2.11)	(1.16)	22.5
2	RL.....	58.2	45.8	24.6	....	13.8	27.1
3	ML.....	67.8	47.6	25.8	(2.67)	(1.56)	25.5
4	CvML.....	68.0	48.5	25.4	(2.45)	(1.54)	25.6
5	L.....	56.2	46.5	23.5	(2.37)	(1.27)	21.7
6	LP.....	63.8	51.2	32.0	(2.86)	14.1	24.2
7	RLP.....	66.2	51.6	32.1	....	15.6	29.8
8	MLP.....	65.0	50.6	28.8	(2.90)	(1.65)	26.8
9	CvMLP.....	70.0	49.8	30.6	(2.91)	(1.63)	33.0
10	L.....	52.9	42.5	21.8	(1.94) ¹	12.7	23.0
11	LPK.....	65.4	48.0	31.2	(3.03)	15.5	22.7
12	RLPK.....	68.2	48.7	31.1	....	15.9	38.4
13	MLPK.....	68.0	48.6	30.1	(3.11)	(1.75)	29.7
14	CvMLPK.....	70.6	46.8	29.7	(3.27)	(1.67)	35.1
15	L.....	51.7	40.4	17.9	(2.08)	(1.31)	25.5
16	R.....	55.2	41.5	21.2	....	12.5	33.3
17	RP.....	62.9	49.8	33.0	....	14.2	31.5
18	RPK.....	66.8	53.8	36.9	....	14.3	32.6
19	RLNPK.....	69.7	51.5	33.9	....	17.4	39.1
20	O.....	54.5	40.4	23.9	(1.82)	(1.14)	24.9

GENERAL NOTES.—The original rotation was corn, corn, oats, wheat, clover, and timothy. In 1909 this was changed to corn, corn, oats, clover, wheat, and clover. The phosphorus has been applied in rock phosphate at the rate of 500 pounds per acre per year. At the beginning, an application of 1,300 pounds of limestone was made per acre; no more limestone was applied until 1913, when an application of 4 tons was made. The potassium is supplied in 100 pounds of potassium sulfate per acre. On Plot 19, nitrogen is applied in 200 pounds of dried blood per acre per year. The manure and residues are supplied as described in the introduction. Some legume cover crops have been grown in the corn.

¹Only two crops.

TABLE 30.—HARTSBURG FIELD: CROP YIELDS IN SOIL EXPERIMENTS
BLACK CLAY LOAM PRAIRIE; MIDDLE ILLINOISAN GLACIATION

Plot No.	Soil treatment applied	1912	1913	1914	1915	1916	1917
		Oats ¹	Clover ³	Wheat ³	Corn	Oats	Clover
Bushels or (tons) per acre							
101	O.....	39.5	(1.88)	35.9	52.9	62.7	(1.90)
102	M.....	30.5	(1.84)	27.9	51.2	59.4	(2.57)
103	ML.....	43.9	(2.03)	36.1	61.9	74.5	(2.51)
104	MLP.....	37.2	(1.90)	33.8	64.1	71.2	(2.63)
105	O.....	35.0	2.67	30.2	45.0	53.3	1.75
106	R.....	33.0	2.33	30.8	52.1	54.8	2.25
107	RL.....	35.3	2.67	32.1	60.5	58.3	2.00
108	RLP.....	37.8	2.50	36.0	63.9	60.6	2.50
109	RLPK.....	33.0	2.25	36.2	62.7	63.0	2.50
110	O.....	31.2	(1.95)	33.7	49.3	56.2	(1.86)
		Corn ¹	Oats ³	Soy-beans ³	Wheat ³	Corn	Oats
201	O.....	32.1	25.5	(1.51)	39.9	32.2	45.6
202	M.....	33.4	21.9	(1.90)	41.5	36.0	52.2
203	ML.....	45.3	25.6	(1.88)	42.8	45.1	61.1
204	MLP.....	38.4	24.1	(1.80)	45.1	41.9	56.6
205	O.....	35.0	22.8	22.1	40.7	30.7	42.8
206	R.....	36.6	20.5	22.6	40.9	48.2	86.9
207	RL.....	37.0	19.5	21.2	34.3	49.9	78.4
208	RLP.....	40.5	22.3	21.2	39.7	45.2	89.4
209	RLPK.....	38.3	24.8	20.8	41.7	44.2	90.3
210	O.....	39.2	22.3	(1.40)	37.8	31.6	43.1
		Wheat ²	Corn	Oats	Soy-beans ³	Wheat	Corn
301	O.....	....	21.1	25.8	(1.43)	14.4	38.2
302	M.....	....	21.3	30.9	(1.84)	21.8	48.7
303	ML.....	....	33.1	36.9	(1.96)	29.0	60.7
304	MLP.....	....	30.0	36.9	(2.23)	34.6	63.7
305	O.....	....	27.1	33.1	30.8	28.7	43.9
306	R.....	....	34.2	31.2	28.4	31.5	79.1
307	RL.....	....	49.5	32.5	30.1	32.7	84.8
308	RLP.....	....	41.7	36.4	28.2	34.9	85.7
309	RLPK.....	....	39.5	35.5	28.9	34.5	84.1
310	O.....	....	26.7	34.5	(2.00)	26.8	49.1
		Soy-beans ¹	Wheat ³	Corn	Oats	Clover	Wheat
401	O.....	12.1	26.2	31.3	48.8	(1.40)	19.1
402	M.....	(.99)	24.8	35.0	58.0	(2.07)	31.7
403	ML.....	(1.12)	29.9	46.5	63.1	(2.12)	32.7
404	MLP.....	(1.20)	33.2	39.0	66.2	(2.28)	42.2
405	O.....	15.0	28.7	33.9	46.9	.67	35.8
406	R.....	17.5	30.6	41.2	51.6	.50	40.3
407	RL.....	17.3	28.8	43.0	54.2	.75	34.8
408	RLP.....	17.4	32.1	45.1	53.3	.83	40.8
409	RLPK.....	17.6	30.9	45.6	52.0	.67	39.7
410	O.....	16.1	32.4	38.1	50.2	(2.17)	40.7

¹Lime only. ²Yields not taken. ³No manure.

TABLE 30.—HARTSBURG FIELD, *Concluded*

Plot No.	Soil treatment applied	1913	1914	1915	1916	1917
		Alfalfa	Alfalfa	Alfalfa	Alfalfa	Alfalfa
Tons per acre						
501	O.....	2.36	4.11	4.67	3.17	3.20
502	M.....	2.89	4.23	5.20	3.66	3.84
503	ML.....	3.20	4.51	5.35	3.85	3.65
504	MLP.....	3.31	4.66	5.58	3.94	4.05
505	O.....	1.80	3.53	4.53	3.38	3.42
506	O.....	2.79	4.24	5.17	3.67	3.38
507	L.....	2.12	3.56	4.72	3.25	3.24
508	LP.....	2.28	4.04	5.33	3.15	3.98
509	LPK.....	2.72	4.49	5.52	3.49	4.00
510	O.....	1.87	3.71	4.46	2.60	3.14
511	M.....	2.45	3.61	4.52	2.79	2.83
512	ML.....	2.79	3.76	4.61	2.94	2.92
513	MLP.....	3.71	4.63	5.03	3.36	3.45
514	MP.....	3.30	4.73	5.09	3.96	3.87
515	O.....	1.79	3.92	4.19	2.81	2.39

TABLE 31.—HARTSBURG FIELD: GENERAL SUMMARY, FULLY TREATED PLOTS

Serial plot No.	Soil treatment applied	Average annual yields—bushels or (tons) per acre				
		Corn 5 crops	Oats 4 crops	Wheat 4 crops ¹	Clover 2 crops	Soybeans 2 crops ¹
1	O.....	35.1	45.7	27.3	(1.65)	(1.47)
2	M.....	38.4	50.1	30.7	(2.32)	(1.87)
3	ML.....	49.5	58.9	35.1	(2.31)	(1.92)
4	MLP.....	47.7	57.7	38.9	(2.46)	(2.01)
5	O.....	36.1	44.0	33.9	1.21	26.4
6	R.....	51.0	56.1	35.9	1.38	25.5
7	RL.....	57.5	55.9	33.5	1.38	25.7
8	RLP.....	56.3	59.9	37.9	1.67	24.7
9	RLPK.....	55.2	60.2	38.0	1.59	24.9
10	O.....	39.0	46.0	34.8	(2.01)	(1.70)

NOTE.—The rotation and soil treatment are standard, as described in the introduction, with the exception that alfalfa is grown upon a fifth field (containing some extra plots) for five years, after which this field is brought into the regular rotation and alfalfa reseeded on another field.

¹No manure on 1914 wheat or soybeans, nor on 1915 wheat.

TABLE 32.—JOLIET FIELD: CROP YIELDS IN SOIL EXPERIMENTS
BROWN SILT LOAM PRAIRIE; LATE WISCONSIN GLACIATION

Plot No.	Soil treatment applied	1914	1915	1916	1917
		Wheat ¹	Soybeans ²	Corn	Oats
Bushels or (tons) per acre					
101	0.....	16.5	(1.42)	18.1	73.4
102	M.....	19.3	(1.50)	29.4	80.1
103	ML.....	20.9	(1.68)	34.0	79.4
104	MLP.....	21.5	(1.82)	33.4	83.1
105	0.....	18.2	15.2	18.5	70.2
106	R.....	19.9	14.0	18.9	73.8
107	RL.....	20.8	15.8	21.6	73.8
108	RLP.....	20.2	15.2	25.0	80.5
109	RLPK.....	22.0	16.3	25.1	70.5
110	0.....	17.4	15.1	18.6	75.5
		Clover ¹	Wheat ²	Soybeans ²	Corn
201	0.....	(2.00)	9.8	(.55)	7.3
202	M.....	(2.05)	7.9	(.59)	7.9
203	ML.....	(1.97)	14.3	(.66)	10.4
204	MLP.....	(2.02)	20.3	(.63)	14.3
205	0.....	(1.91)	10.6	8.2	6.0
206	R.....	.42	15.6	7.9	7.7
207	RL.....	1.00	20.0	8.9	11.1
208	RLP.....	.92	24.9	11.5	14.6
209	RLPK.....	1.83	30.4	15.0	23.4
210	0.....	1.25	25.2	(1.06)	23.7
		Oats ¹	Soybeans ²	Wheat ²	Soybeans ²
301	0.....	60.9	10.6	4.1	(1.58)
302	M.....	60.2	(1.42)	5.2	(1.66)
303	ML.....	59.8	(1.69)	8.3	(1.67)
304	MLP.....	59.5	(1.75)	7.9	(1.78)
305	0.....	50.2	13.9	6.0	9.4
306	R.....	53.3	13.0	9.9	8.8
307	RL.....	60.8	13.7	13.2	8.2
308	RLP.....	59.1	15.1	18.7	11.5
309	RLPK.....	68.8	15.0	15.2	12.6
310	0.....	52.5	12.8	7.1	(1.39)
		Corn ¹	Oats ²	Clover ²	Wheat ²
401	0.....	44.7	72.5	(1.17)	8.2
402	M.....	46.9	73.0	(1.24)	10.3
403	ML.....	52.4	70.5	(1.16)	10.9
404	MLP.....	50.2	75.0	(1.64)	19.6
405	0.....	42.3	67.7	.33	9.8
406	R.....	50.6	62.8	.42	8.8
407	RL.....	53.2	63.4	.50	13.4
408	RLP.....	51.0	65.0	.50	22.5
409	RLPK.....	53.1	72.0	.42	24.3
410	0.....	45.1	63.1	(1.15)	0.0

GENERAL NOTES.—The rotation practiced is wheat, soybeans, corn, oats, clover, and alfalfa. The alfalfa will remain down six years, when it will be changed to one of the other fields. The soil treatment is standard, as described in the introduction.

¹Lime only. ²No manure.

TABLE 32.—JOLIET FIELD, *Concluded*

Plot No.	Soil treatment applied	1914	1915	1916	1917
		Soybeans ¹	Corn	Oats	Soybeans
Bushels or (tons) per acre					
501	O.....	(1.24)	28.6	70.9	(1.60)
502	M.....	(1.40)	36.3	75.9	(1.74)
503	ML.....	(1.51)	38.3	77.2	(1.84)
504	MLP.....	(1.28)	47.7	77.7	(1.87)
505	O.....	12.1	28.5	73.3	10.9
506	R.....	11.9	32.4	71.1	11.0
507	RL.....	13.3	28.7	63.9	11.0
508	RLP.....	11.9	31.2	59.8	13.4
509	RLPK.....	14.8	43.4	81.4	14.7
510	O.....	(1.12)	27.1	74.1	(1.50)
		Alfalfa ¹	Alfalfa ²	Alfalfa ²	Alfalfa ²
601	O.....	....	(1.79)	(1.46)	(.44)
602	M.....	....	(2.13)	(1.78)	(.47)
603	ML.....	....	(2.83)	(2.96)	(.81)
604	MLP.....	....	(3.73)	(4.35)	(1.28)
605	O.....	....	(2.18)	(2.16)	(.71)
606	R.....	....	(2.57)	(2.23)	(.74)
607	RL.....	....	(2.90)	(2.88)	(.97)
608	RLP.....	....	(3.39)	(4.10)	(1.28)
609	RLPK.....	....	(3.56)	(4.38)	(1.46)
610	O.....	....	(1.90)	(1.72)	(.41)

¹Lime only. ²No residues or manure.

TABLE 33.—KEWANEE FIELD: CROP YIELDS IN SOIL EXPERIMENTS
BROWN SILT LOAM PRAIRIE; UPPER ILLINOISAN GLACIATION

Plot No.	Soil treatment applied	1915	1916	1917
		Corn ¹	Oats ²	Clover ⁵
Bushels or (tons) per acre				
101	0.....	32.6	66.4	(1.67)
102	M.....	40.5	68.4	(2.33)
103	ML.....	37.3	68.3	(2.04)
104	MLP.....	37.5	63.6	(1.70)
105	0.....	38.6	69.8	0.42
106	R.....	32.4	63.3	0.54
107	RL.....	44.2	62.3	0.67
108	RLP.....	36.3	68.1	0.79
109	RLPK.....	41.6	64.7	0.58
110	0.....	44.2	63.4	(1.85)
		Wheat ¹	Corn ³	Oats
201	0.....	33.8	42.7	72.0
202	M.....	35.0	43.7	84.4
203	ML.....	36.5	50.6	95.2
204	MLP.....	29.9	46.0	82.7
205	0.....	30.8	46.3	72.3
206	R.....	41.2	47.9	70.5
207	RL.....	27.2	52.5	68.6
208	RLP.....	29.7	49.2	71.2
209	RLPK.....	28.8	54.2	77.3
210	0.....	31.7	45.6	67.8
		Soybeans ¹	Wheat ²	Corn
301	0.....	19.7	17.8	47.5
302	M.....	(1.78)	13.6	49.2
303	ML.....	(1.62)	10.1	56.2
304	MLP.....	(1.70)	15.5	58.5
305	0.....	20.2	12.8	44.1
306	R.....	19.1	13.7	39.9
307	RL.....	19.6	10.2	47.0
308	RLP.....	19.7	14.3	51.0
309	RLPK.....	22.2	16.4	57.6
310	0.....	19.7	14.8	44.0
		Oats ¹	Clover ⁴	Wheat ⁵
401	0.....	83.8	(2.43)	26.5
402	M.....	80.0	(2.34)	27.5
403	ML.....	91.6	(2.51)	27.3
404	MLP.....	77.0	(2.04)	26.1
405	0.....	84.8	....	30.2
406	R.....	77.5	....	34.8
407	RL.....	88.1	....	32.0
408	RLP.....	87.8	....	33.2
409	RLPK.....	95.6	....	38.7
410	0.....	72.2	(1.95)	19.7

NOTE.—The rotation and soil treatment are standard, as described in the introduction.

¹Limestone only. ²No manure or potassium. ³No potassium. ⁴No phosphorus, manure or potassium. ⁵No manure.

TABLE 34.—LAMOILLE FIELD, MAIN ROTATION: CROP YIELDS IN SOIL
EXPERIMENTS
BROWN SILT LOAM PRAIRIE; LATE WISCONSIN GLACIATION

Plot No.	Soil treatment applied	1910	1911	1912	1913	1914	1915	1916	1917
		Barley ¹	Corn ²	Oats ²	Soy-beans ⁵	Wheat ⁶	Corn	Oats	Clover
Bushels or (tons) per acre									
101	0.....	32.6	82.5	63.9	(1.94)	45.7	33.3	75.0	(1.34)
102	M.....	41.7	84.8	63.1	(1.75)	44.5	45.2	77.3	(1.37)
103	ML.....	39.8	79.6	60.9	(1.56)	41.3	38.3	66.9	(1.32)
104	MLP....	37.7	72.4	46.7	(1.55)	37.5	36.1	61.2	(1.40)
105	0.....	30.5	73.5	64.2	17.5	39.2	20.0	54.7	.25
106	R.....	48.0	79.4	66.4	17.7	46.8	31.1	73.1	.29
107	RL.....	41.1	81.5	67.2	19.0	46.9	32.1	74.4	.29
108	RLP....	46.7	80.0	65.6	19.1	46.7	33.1	70.3	.29
109	RLPK...	41.0	74.2	57.2	19.7	45.9	32.6	67.3	.58
110	0.....	41.7	75.0	61.6	18.3	43.0	24.6	67.3	(1.31)
		Soy-beans ¹	Wheat ³	Corn ⁴	Oats	Clover	Wheat	Corn	Oats
201	0.....	15.0	19.3	87.8	63.6	(3.29)	30.8	38.4	88.0
202	M.....	16.3	43.3	88.7	75.2	(4.83)	42.1	46.5	89.4
203	ML.....	14.9	38.2	83.1	72.5	(4.67)	47.1	47.3	89.7
204	MLP....	15.0	37.8	78.9	69.7	(4.56)	48.3	44.0	95.9
205	0.....	11.3	37.9	69.5	64.4	4.08	46.8	32.8	87.5
206	R.....	12.2	41.2	73.9	72.2	2.75	45.8	39.4	95.9
207	RL.....	12.0	41.2	73.9	73.0	3.00	36.7	42.2	89.4
208	RLP....	11.3	41.3	70.1	75.5	3.25	40.8	39.7	91.7
209	RLPK...	11.3	39.6	77.0	66.7	3.25	45.8	38.1	85.2
210	0.....	14.0	40.8	67.4	71.9	(4.14)	34.2	36.3	81.6
		Oats ¹	Soy-beans ²	Barley ³	Corn	Oats	Soy-beans	Wheat	Corn
301	0.....	61.3	18.0	44.7	35.6	51.6	(2.20)	21.5	22.8
302	M.....	74.1	21.2	46.3	51.2	58.9	(2.20)	29.8	40.3
303	ML.....	65.9	22.1	47.2	46.6	60.5	(2.18)	30.7	36.1
304	MLP....	59.4	21.2	43.0	47.9	56.2	(2.20)	28.6	42.5
305	0.....	44.7	21.8	44.8	40.2	50.0	16.2	10.9	24.6
306	R.....	52.8	20.4	45.2	58.9	57.5	16.8	25.9	31.2
307	RL.....	70.5	21.9	52.2	58.8	60.5	16.6	36.2	38.9
308	RLP....	61.6	21.0	47.5	58.8	60.2	14.4	34.2	35.8
309	RLPK...	53.4	19.7	47.1	51.0	57.8	14.7	32.7	34.1
310	0.....	58.6	20.0	44.5	36.1	46.1	(1.96)	25.3	20.1
		Corn ¹	Oats ²	Soy-beans ²	Wheat ⁶	Corn	Oats	Clover	Wheat
401	0.....	34.6	57.5	(2.11)	42.7	44.3	75.8	(2.90)	40.1
402	M.....	35.4	55.6	(2.17)	45.8	57.3	80.8	(2.77)	45.2
403	ML.....	37.2	58.1	(2.14)	44.6	55.7	90.8	(2.54)	46.8
404	MLP....	36.2	61.9	(2.20)	45.8	61.2	83.4	(2.51)	45.3
405	0.....	37.4	68.1	30.6	48.8	49.9	54.7	.25	42.8
406	R.....	40.5	66.6	28.8	54.4	58.5	85.8	.25	44.4
407	RL.....	39.8	66.3	27.1	55.9	52.9	68.8	.08	48.2
408	RLP....	38.9	63.0	25.8	53.8	56.2	76.6	.17	48.8
409	RLPK...	39.4	58.9	25.8	49.8	59.1	85.9	.33	49.1
410	0.....	36.9	50.8	26.0	44.4	40.7	64.1	(2.64)	39.8

¹No soil treatment. ²Residues only. ³No lime or manure. ⁴No lime. ⁵No phosphorus, manure or potassium. ⁶No manure.

TABLE 34a.—LAMOILLE FIELD, MINOR ROTATION: CROP YIELDS IN SOIL EXPERIMENTS

BROWN SILT LOAM; EARLY WISCONSIN GLACIATION

Plot No.	Soil treatment applied	1913	1914	1915	1916	1917
		Potatoes	Potatoes	Alfalfa	Alfalfa	Alfalfa ^a
Bushels of potatoes or tons of alfalfa hay, per acre						
501	0.....	153.2	140.3	....	3.39	....
502	M.....	156.8	108.2	....	4.58	....
503	ML.....	163.5	111.7	....	4.77	....
504	MLP.....	161.8	124.3	....	4.08	....
		Alfalfa ⁷	Alfalfa ⁶	Potatoes	Potatoes	Alfalfa ⁸
601	0.....	....	6.64	203.0	99.2	....
602	M.....	....	6.68	222.8	216.3	....
603	ML.....	....	6.82	228.5	196.7	....
604	MLP.....	....	6.58	182.0	160.2	....
		Alfalfa ⁷	Alfalfa ⁶	Alfalfa ⁶	Alfalfa ⁶	Potatoes
701	0.....	....	5.39	4.20	4.64	64.0
702	M.....	....	5.20	4.73	4.77	98.0
703	ML.....	....	5.28	4.83	5.27	91.8
704	MLP.....	....	5.32	4.70	4.72	96.8
		Alfalfa ⁷	Alfalfa ⁶	Alfalfa ⁶	Alfalfa ⁶	Alfalfa ⁸
801	0.....	....	5.24	4.29	4.48	....
802	M.....	....	5.01	4.46	4.61	....
803	ML.....	....	5.79	4.60	4.45	....
804	MLP.....	....	6.24	6.01	4.64	....

^aNo manure. ⁷No soil treatment; plot yields not taken. ⁸Winter-killed.

TABLE 35.—LAMOILLE FIELD: GENERAL SUMMARY, FULLY TREATED PLOTS

Serial plot No.	Soil treatment applied	Average annual yields—bushels or (tons) per acre				
		Corn 5 crops	Oats 5 crops	Wheat 4 crops ¹	Clover 3 crops	Potatoes 5 crops
1	0.....	34.9	70.8	34.5	(2.51)	131.9
2	M.....	48.1	76.3	40.4	(2.99)	160.4
3	ML.....	44.8	76.1	41.5	(2.84)	158.4
4	MLP.....	46.3	73.2	39.9	(2.82)	145.0
5	0.....	33.5	62.3	34.9	1.52	....
6	R.....	43.8	76.9	40.7	1.10	....
7	RL.....	45.0	73.2	42.0	1.12	....
8	RLP.....	44.7	74.9	42.6	1.24	....
9	RLPK.....	43.0	72.6	43.4	1.38	....
10	0.....	31.6	66.2	35.6	(2.70)	....

GENERAL NOTES.—The main rotation and soil treatment are standard, as described in the introduction. Series 500, 600, 700, and 800 are used for a rotation of potatoes and alfalfa. The potatoes are grown for two years and alfalfa for six years. Limestone at the rate of 4 tons per acre is applied before the alfalfa; and rock phosphate at the rate of 2 tons per acre, before the first crop of potatoes. Fifteen tons of manure is applied for each potato crop.

¹No manure on 1914 wheat.

TABLE 36.—LEBANON FIELD, MAIN ROTATION: CROP YIELDS IN SOIL EXPERIMENTS
YELLOW-GRAY SILT LOAM, TIMBER SOIL*; MIDDLE ILLINOISAN GLACIATION

Plot No.	Soil treatment applied	1910		1911		1912		1913 Clover ²	1914 Wheat	1915 Corn	1916 Oats	1917 Clover
		Wheat ¹	Corn ²	Oats ²	Stubble clover	Bushels or (tons) per acre						
101	O.....	....	49.6	36.1	(.76)	(1.12)	24.7	37.7	26.4	(2.12)		
102	M.....	....	50.6	49.8	(1.40)	(2.48)	31.8	50.5	38.9	(3.64)		
103	ML.....	....	50.7	43.3	(1.22)	(2.14)	30.8	62.2	42.2	(3.24)		
104	MLP.....	....	49.0	48.4	(1.14)	(1.86)	32.3	57.0	45.6	(3.62)		
105	O.....	....	45.9	42.8	(.71)	(1.20)	22.6	42.4	30.6	1.25		
106	R.....	....	44.4	43.6	....	....	25.6	39.3	33.1	.83		
107	RL.....	....	44.7	42.8	....	....	27.5	52.4	41.6	.75		
108	RLP.....	....	46.1	51.4	....	....	30.0	48.7	43.4	.75		
109	RLPK.....	....	44.2	55.0	....	....	26.2	50.0	46.9	.58		
110	O.....	....	44.8	38.4	(.50)	(1.08)	23.8	35.9	29.1	(2.80)		
		Cowpeas ¹	Wheat ³	Corn	Oats	Soybeans	Wheat	Stubble clover	Corn	Oats		
201	O.....	....	27.3	34.0	3.1	(.46)	25.0	(1.48)	15.3	39.1		
202	M.....	....	27.4	48.6	7.3	(.37)	30.8	(1.80)	27.6	48.9		
203	ML.....	....	30.0	48.7	5.8	(.41)	33.0	(1.78)	29.5	71.1		
204	MLP.....	....	29.6	46.2	6.1	(.41)	32.4	(1.80)	28.1	66.2		
205	O.....	....	23.9	27.6	5.2	2.8	19.2	....	10.5	42.7		
206	R.....	....	24.3	33.1	3.6	3.2	23.8	....	17.7	60.0		
207	RL.....	....	25.0	45.4	5.5	4.4	32.0	....	26.6	79.1		
208	RLP.....	....	26.1	43.6	5.5	3.8	33.0	....	29.8	63.4		
209	RLPK.....	....	26.8	44.2	6.1	4.8	30.0	....	33.2	77.5		
210	O.....	....	31.0	28.9	3.1	4.1	20.2	....	11.1	43.4		

TABLE 36.—LEBANON FIELD, Concluded

Plot No.	Soil treatment applied	1910		1911		1912		1913 Corn	1914 Oats	1915 Clover	1916 Wheat	1917 Corn
		Wheat ¹	Clover ⁴	Wheat ³	Stubble clover	Bushels or (tons) per acre						
301	0	....	(2.58)	22.8	(.81)	33.0	3.1	(4.83)	23.1	42.1	
302	M	....	(2.91)	26.8	(1.77)	29.6	7.0	(5.04)	27.8	47.2	
303	ML	....	(2.60)	26.3	(2.18)	35.5	8.6	(5.28)	28.4	57.1	
304	MLP	....	(2.55)	27.5	(1.75)	30.4	7.2	(5.28)	28.5	56.8	
305	0	....	3.33	17.5	(.87)	23.2	2.7	.42	18.3	36.5	
306	R	....	2.42	27.2	....	30.6	2.7	.33	20.2	47.7
307	RL	....	2.50	28.0	....	40.6	5.0	.33	21.6	60.3
308	RLP	....	2.50	30.0	....	37.4	7.7	.42	23.7	61.4
309	RLPK	....	2.67	31.5	....	41.5	10.0	.42	27.2	70.4
310	0	....	(2.26)	23.5	(1.62)	33.9	4.7	(3.80)	22.2	44.0	
		Corn ¹	Oats ⁵	Soybeans ⁵	Wheat ³	Corn ⁶	Oats	Stubble clover	Clover	Wheat		
401	0	16.2	20.5	(1.03)	15.2	1.0	25.3	(1.36)	(2.69)	45.5		
402	M	13.6	18.9	(1.09)	15.2	2.9	25.6	(1.58)	(2.50)	46.7		
403	ML	15.0	20.8	(1.24)	21.2	5.5	33.6	(1.80)	(2.58)	53.2		
404	MLP	14.7	23.1	(1.41)	21.3	6.3	32.2	(1.83)	(2.53)	60.6		
405	0	16.5	26.1	4.5	18.6	2.1	22.2	1.08	.83	39.1		
406	R	16.8	18.6	5.9	18.8	2.9	31.2	1.25	.67	39.8		
407	RL	16.1	21.6	6.5	27.2	6.2	35.2	1.17	.67	49.3		
408	RLP	18.4	24.1	8.3	26.7	7.2	34.1	1.08	.75	54.7		
409	RLPK	16.9	28.3	7.3	30.9	8.2	47.3	1.25	.83	50.5		
410	0	13.4	21.9	(1.43)	18.3	5.1	16.9	(1.38)	(2.09)	42.1		

*East end of field varies toward brown silt loam on clay.

¹No soil treatment applied; yields taken of corn only; legumes plowed under on residue plots. ²No phosphorus or potassium.³No manure. ⁴Limestone only. ⁵No manure, phosphorus, or potassium. ⁶Insect injury.

TABLE 36a.—LEBANON FIELD, MINOR ROTATION: CROP YIELDS IN SOIL EXPERIMENTS

Plot No.	Soil treatment applied	1911	1912	1913	1914	1915	1916	1917
		Potatoes	Corn	Soybeans	Potatoes	Corn	Soybeans	Potatoes
Bushels or (tons) per acre								
501	O.....	30.1	55.9	24.0	13.3	45.0	22.8	22.0
502	M.....	32.0	65.9	24.1	17.6	65.4	22.0	64.8
503	ML.....	20.5	58.1	21.9	16.6	60.8	21.2	63.8
504	MLP....	17.5	57.5	24.4	8.5	61.6	19.8	33.6
		Soybeans ¹	Potatoes	Corn	Soybeans	Potatoes	Corn	Soybeans
601	O.....	(2.12)	77.5	57.0	30.7	100.1	42.3	(3.10)
602	M.....	(2.02)	67.1	60.2	31.7	110.0	41.9	(3.18)
603	ML.....	(2.17)	53.1	63.8	34.6	132.3	45.6	(3.22)
604	MLP....	(1.90)	67.4	51.9	30.7	90.6	43.5	(3.58)
		Corn ¹	Soybeans ¹	Potatoes	Corn	Soybeans	Potatoes	Corn
701	O.....	48.2	(2.93)	35.3	13.0	11.8	63.3	59.6
702	M.....	46.4	(2.53)	40.5	16.7	10.3	83.7	59.0
703	ML.....	38.1	(2.08)	31.9	19.3	13.7	68.9	58.1
704	MLP....	43.2	(2.22)	29.3	19.2	12.5	73.9	64.4

¹Limestone only.

TABLE 37.—LEBANON FIELD, MAIN ROTATION: GENERAL SUMMARY FULLY TREATED PLOTS

Serial plot No.	Soil treatment applied	Average annual yields—bushels or (tons) per acre			
		Corn 6 crops	Oats 5 crops	Wheat 4 crops	Clover 4 crops
1	O.....	27.2	19.4	29.6	(3.12)
2	M.....	34.4	25.5	34.3	(3.64)
3	ML.....	39.8	32.3	36.3	(3.89)
4	MLP.....	37.5	31.5	38.4	(3.76)
5	O.....	23.7	20.7	24.8	.90
6	R.....	28.6	26.1	27.3	.77
7	RL.....	38.6	35.3	32.6	.73
8	RLP.....	38.0	30.8	35.2	.75
9	RLPK.....	41.2	37.6	33.5	.77
10	O.....	26.5	19.4	27.1	(2.52)

TABLE 37a.—MINOR ROTATION

		Corn 6 crops	Potatoes 7 crops	Soybeans 5 crops ¹
1	O.....	45.4	48.8	24.0
2	M.....	51.5	59.4	24.0
3	ML.....	51.0	55.3	24.7
4	MLP.....	49.7	45.9	24.4

GENERAL NOTES.—The main rotation and soil treatment are standard, as described in the introduction. The minor rotation is corn, soybeans, and potatoes, the soil treatment being the same as for the main rotation with the exception that 45 tons of manure is applied per acre for the potato crop.

¹One crop was hay; in making this average, 1 ton of hay is counted equivalent to 10 bushels of seed.

TABLE 33.—MCNABB FIELD: CROP YIELDS IN SOIL EXPERIMENTS
BROWN SILT LOAM FORMERLY TIMBERED* ; EARLY WISCONSIN GLACIATION

Plot No.	Soil treatment applied	Bushels or (tons) per acre										
		1907 Cow-peas ¹	1908 Corn ¹	1909 Oats ²	1910 Wheat ²	1911 Soy-beans	1912 Corn	1913 Oats	1914 Wheat	1915 Soy-beans	1916 Corn	1917 Oats
101	R.	...	73.6	30.0	36.8	27.7	67.0	45.3	26.5	19.8	31.0	62.8
102	RP.	...	74.4	35.0	40.8	26.7	81.4	48.4	30.2	20.0	39.6	71.9
103	O.	...	80.4	41.3	42.5	27.5	74.8	50.0	30.2	17.7	38.8	92.8
104	MP.	...	69.6	39.4	34.2	24.5	73.4	48.8	30.2	(2.16)	41.0	94.4
105	M.	...	53.8	32.2	30.8	18.8	70.8	49.1	22.7	(1.96)	36.4	85.3
											Soy-beans	Corn
201	R.	...	1.94	81.0	61.9	49.3	...	52.2	62.2	39.3	...	61.0
202	RP.	...	2.17	93.2	60.9	48.1	...	59.4	58.8	42.2	...	67.8
203	O.	...	(2.02)	92.6	57.8	45.8	(3.41)	61.0	58.1	40.3	(2.07)	64.6
204	MP.	...	(1.92)	96.2	63.8	44.8	(3.78)	60.0	59.1	41.8	(1.93)	63.4
205	M.	...	(1.85)	94.0	65.6	43.7	(3.54)	53.8	51.2	39.7	(1.84)	63.8
											Wheat	Soy-beans
301	R.	...	41.0	...	1.14	63.1	9.7	...	63.8	33.8	35.0	16.7
302	RP.	...	42.5	...	111.2	61.6	11.8	...	61.2	42.2	36.7	20.0
303	O.	...	39.8	...	112.2	57.5	10.0	(4.25)	59.2	42.2	38.3	(1.44)
304	MP.	...	41.7	...	115.6	60.3	10.5	(3.58)	66.6	54.1	38.8	(2.18)
305	M.	...	31.7	...	96.8	57.2	10.0	(3.72)	57.6	49.7	38.2	(1.85)
											Wheat	Soy-beans
401	R.	...	25.3	23.7	1.25	105.3	91.3	41.7	1.17	53.4	50.0	40.5
402	RP.	...	23.8	25.5	.83	113.4	98.1	38.3	1.17	59.0	52.2	43.2
403	O.	...	26.6	28.2	(2.43)	109.8	90.3	41.0	(1.70)	60.8	40.9	34.7
404	MP.	...	24.4	27.5	(2.49)	104.5	88.8	41.7	(1.78)	57.4	47.5	37.3
405	M.	...	23.8	24.7	(2.18)	105.1	85.3	41.2	(1.96)	52.8	45.9	36.0

*Brown silt loam, altho a prairie type, may be timbered for a short time without changing the type.

¹Phosphorus only. ²No manure.

TABLE 40.—MINONK FIELD: CROP YIELDS IN SOIL EXPERIMENTS
 BROWN SILT LOAM PRAIRIE; EARLY WISCONSIN GLACIATION

Plot No.	Soil treatment applied	1910 ¹	1911	1912	1913	1914	1915	1916	1917
		Barley	Corn ²	Oats ⁴	Clover ⁴	Wheat ⁵	Corn	Oats	Soybeans
Bushels or (tons) per acre									
101	0.....	38.1	72.8	42.8	(3.94)	53.2	51.8	63.1	(1.43)
102	M.....	29.4	66.8	43.4	(4.04)	51.3	56.4	55.3	(1.70)
103	ML.....	29.5	63.1	39.7	(3.86)	55.8	61.4	55.6	(1.94)
104	MLP....	33.7	61.0	39.1	(3.61)	49.0	57.0	50.9	(2.06)
105	0.....	33.0	58.6	41.3	.67	53.0	50.0	52.2	20.0
106	R.....	36.9	72.3	51.3	.83	47.0	52.2	55.9	19.2
107	RL.....	39.9	71.2	42.5	.67	35.2	43.8	58.1	18.0
108	RLP....	44.0	72.4	37.5	.67	33.8	40.2	60.6	17.8
109	RLPK...	39.5	73.8	31.9	.50	29.8	43.8	60.6	16.0
110	0.....	42.4	68.8	34.4	(1.63)	27.3	43.6	56.9	(1.23)
		Soybeans	Wheat ³	Corn	Oats	Soybeans	Wheat	Corn	Oats
201	0.....	13.3	25.9	65.4	39.7	(1.10)	52.2	37.5	76.1
202	M.....	14.7	25.7	70.6	38.0	(1.22)	52.6	35.7	67.0
203	ML.....	15.0	28.5	69.4	41.6	(1.23)	53.6	35.1	73.8
204	MLP....	14.7	25.8	74.3	41.6	(.98)	61.1	31.6	65.8
205	0.....	13.3	26.0	63.9	39.1	8.7	51.0	26.4	63.6
206	R.....	12.5	26.8	65.0	35.0	10.8	51.2	37.1	78.9
207	RL.....	13.5	22.7	69.7	36.2	8.5	49.9	34.9	75.0
208	RLP....	11.2	22.2	68.4	40.2	8.8	47.6	35.6	79.7
209	RLPK...	11.8	23.8	69.8	44.4	7.7	48.1	34.6	78.9
210	0.....	12.7	20.0	66.3	44.1	(.69) ⁶	44.5	22.8	63.8
		Oats	Clover ²	Wheat ⁵	Corn	Oats	Soybeans	Wheat	Corn
301	0.....	67.2	(2.75)	11.1	54.1	40.6	(1.72)	30.7	54.7
302	M.....	66.9	(2.65)	11.3	63.9	42.0	(1.70)	37.7	63.8
303	ML.....	65.5	(2.54)	15.6	60.6	43.3	(1.78)	35.1	67.5
304	MLP....	62.8	(2.65)	17.9	65.2	44.8	(1.70)	38.0	69.3
305	0.....	58.3	(2.82)	15.3	57.9	45.0	19.7	34.5	46.4
306	R.....	58.3	...	17.8	64.0	44.5	18.6	38.3	60.6
307	RL.....	56.7	...	15.8	62.0	45.8	18.3	35.5	70.0
308	RLP....	56.9	...	18.0	58.7	42.5	20.7	34.4	68.7
309	RLPK...	61.9	...	13.3	59.2	38.8	19.2	31.8	69.9
310	0.....	64.2	(2.05)	6.7	44.5	29.2	(1.63)	28.2	52.9
		Corn	Oats ²	Soybeans ⁴	Wheat ⁵	Corn	Oats	Clover	Wheat
401	0.....	52.0	52.5	(1.27)	33.8	19.9	89.4	(2.07)	9.9
402	M.....	48.9	52.5	(1.54)	31.8	22.6	93.0	(2.06)	14.0
403	ML.....	50.9	55.3	(1.10)	27.9	18.7	93.4	(1.82)	11.2
404	MLP....	51.8	49.4	(1.24)	33.5	24.7	103.1	(2.32)	17.1
405	0.....	52.4	55.6	10.7	33.7	24.2	93.4	.25	17.9
406	R.....	49.6	56.4	10.6	39.2	33.8	88.1	.08	23.9
407	RL.....	45.4	54.8	11.5	38.7	38.6	100.0	.00	21.2
408	RLP....	45.0	55.5	11.5	41.2	35.8	101.9	.08	22.8
409	RLPK...	51.6	53.3	11.4	44.0	35.9	105.5	.08	21.5
410	0.....	45.4	53.4	13.0	36.7	27.5	106.0	(2.30)	12.1

¹No treatment. ²Residues only. ³No manure or limestone. ⁴Residues and limestone only. ⁵No manure. ⁶Estimated.

TABLE 39.—MCNABB FIELD: GENERAL SUMMARY, FULLY TREATED PLOTS

Serial plot No.	Soil treatment applied	Average annual yields—bushels or (tons) per acre			
		Corn 9 crops	Oats 8 crops	Wheat 7 crops	Clover 3 crops
1	R.....	69.9	58.8	34.6	.39
2	RP.....	76.2	61.8	35.8	.39
3	O.....	74.9	61.2	34.3	(3.12)
4	MP.....	75.3	65.2	35.0	(3.18)
5	M.....	68.7	61.2	33.1	(3.07)

GENERAL NOTES.—The rotation followed is corn, oats, wheat, and clover. Legume catch crops are seeded in the corn. The manure, residues, and phosphorus are applied as described in the introduction. (A strip running thru the middle of this field occupied by Plot 3 is abnormally productive.)

TABLE 41.—MINONK FIELD: GENERAL SUMMARY, FULLY TREATED PLOTS

Serial plot No.	Soil treatment applied	Average annual yields—bushels or (tons) per acre				
		Corn 6 crops	Oats 5 crops	Wheat 4 crops ¹	Clover 1 crop	Soybeans 3 crops
1	O.....	47.2	61.8	36.5	(2.07)	(1.42)
2	M.....	52.2	59.1	38.9	(2.06)	(1.54)
3	ML.....	52.1	61.5	38.9	(1.82)	(1.65)
4	MLP.....	53.7	61.2	41.3	(2.32)	(1.58)
5	O.....	44.8	58.7	39.1	.25	16.1
6	R.....	52.1	60.5	40.1	.08	16.2
7	RL.....	53.2	63.0	35.4	.00	14.9
8	RLP.....	51.2	65.0	34.7	.08	15.8
9	RLPK.....	52.2	65.6	32.8	.08	14.3
10	O.....	42.9	60.0	28.0	(2.39)	(1.18)

NOTE.—The rotation and soil treatment are standard, as described in the introduction.

¹No manure on 1914 crop.

TABLE 42.—MT. MORRIS FIELD, MAIN ROTATION: CROP YIELDS IN SOIL EXPERIMENTS
BROWN SILT LOAM PRAIRIE; IOWAN GLACIATION

Plot No.	Soil treatment applied	1910	1911	1912	1913	1914	1915	1916	1917
		Barley ¹	Corn ²	Oats ²	Clover ⁵	Wheat ⁶	Corn	Oats	Clover
Bushels or (tons) per acre									
101	O.....	44.6	53.8	49.1	(3.17)	40.5	17.9	67.0	(1.23)
102	M.....	42.9	54.1	50.0	(3.70)	42.8	36.7	71.6	(1.72)
103	ML.....	30.2	46.7	27.0	(2.37)	36.2	41.0	63.0	(2.41)
104	MLP....	26.4	46.5	40.3	(2.18)	36.8	39.5	63.8	(2.52)
105	O.....	27.3	51.5	43.1	(2.59)	37.3	16.0	59.5	.50
106	R.....	23.1	52.1	39.4	.58	38.4	20.9	60.0	1.10
107	RL.....	32.8	53.5	41.9	1.00	42.8	35.2	61.9	1.33
108	RLP....	30.7	57.9	47.5	.83	43.4	38.0	54.7	1.17
109	RLPK...	34.7	52.9	48.4	.92	47.4	40.5	62.8	.83
110	O.....	30.7	55.7	41.6	(3.66)	44.6	19.7	30.3	(1.25)
		Soy-beans ¹	Wheat ³	Corn ⁴	Oats	Clover	Wheat	Corn	Oats
201	O.....	17.8	20.8	48.6	52.8	(1.85)	31.7	29.5	76.2
202	M.....	15.8	16.2	56.8	63.0	(2.74)	35.9	43.8	85.2
203	ML.....	15.2	15.4	57.4	50.3	(3.44)	40.1	50.7	97.3
204	MLP....	12.3	16.5	58.7	61.7	(3.52)	44.0	51.0	95.5
205	O.....	16.1	17.0	49.6	48.8	(1.74)	30.8	33.3	78.4
206	R.....	16.1	16.3	45.8	62.5	1.00	37.7	42.9	81.1
207	RL.....	16.3	18.2	48.8	63.3	1.25	42.1	55.5	95.8
208	RLP....	14.5	21.3	53.0	69.2	1.00	47.1	57.2	99.4
209	RLPK...	11.8	23.5	62.1	63.1	1.67	48.2	56.5	101.4
210	O.....	12.2	22.0	51.1	48.0	1.50	42.9	42.4	74.5
		Oats ¹	Soy-beans ²	Barley ³	Corn	Oats	Clover	Wheat	Corn
301	O.....	54.2	13.7	32.2	57.5	57.3	(4.35)	13.3	28.9
302	M.....	53.1	18.3	31.3	72.9	56.4	(4.24)	17.6	48.2
303	ML.....	50.8	16.0	35.8	70.7	55.5	(4.18)	19.8	56.2
304	MLP....	51.6	17.4	33.3	67.1	51.7	(4.24)	24.8	57.4
305	O.....	70.9	15.3	31.5	58.4	43.8	.42	17.0	31.0
306	R.....	68.7	18.5	30.2	66.1	50.0	.50	19.7	38.0
307	RL.....	75.8	15.9	31.9	69.2	47.0	.42	22.3	48.7
308	RLP....	62.5	19.6	33.4	76.8	56.2	.17	26.8	51.7
309	RLPK...	78.1	16.9	39.3	68.9	54.2	.08	28.7	56.4
310	O.....	62.5	18.2	29.8	51.5	53.1	(3.37)	21.2	30.0
		Corn ¹	Oats ²	Clover ²	Wheat ⁶	Corn	Oats	Clover	Wheat
401	O.....	34.3	60.2	(2.10)	25.2	58.2	70.0	(2.16)	7.1
402	M.....	35.1	63.6	(2.67)	26.2	71.3	67.0	(2.74)	7.8
403	ML.....	36.9	60.3	(2.87)	29.5	73.6	67.0	(3.09)	11.5
404	MLP....	35.8	70.3	(2.75)	33.3	68.8	69.4	(3.01)	11.8
405	O.....	37.1	65.3	(2.73)	27.8	58.4	66.4	.58	7.8
406	R.....	42.0	65.0	1.42	33.5	59.5	64.7	.50	8.1
407	RL.....	41.2	71.1	1.42	32.0	64.5	57.7	.67	11.5
408	RLP....	40.3	68.3	1.25	33.3	66.4	57.2	.50	13.6
409	RLPK...	40.9	68.3	1.17	36.8	67.5	57.3	.42	13.1
410	O.....	36.2	63.0	(2.18)	30.3	57.5	71.6	(2.23)	5.9

¹No treatment. ²Residues only. ³No manure or lime. ⁴No manure. ⁵Residues and lime only.

TABLE 42a.—MT. MORRIS FIELD, MINOR ROTATION: CROP YIELDS IN SOIL EXPERIMENTS

Plot No.	Soil treatment applied	1913	1914	1915	1916	1917
		Potatoes	Potatoes	Barley hay	Alfalfa	Alfalfa
Bushels or (tons) per acre						
501	0.....	112.5	78.3	(.52)	(1.16)	....
502	M.....	163.2	158.0	(2.33)	(3.88)	....
503	ML.....	184.3	173.8	(1.96)	(5.33)	....
504	MLP.....	207.7	175.0	(1.79)	(5.10)	....
			Alfalfa ⁶	Potatoes	Potatoes	Alfalfa
601	0.....	....	(5.32)	197.8	71.7	....
602	M.....	....	(5.47)	266.7	137.0	....
603	ML.....	....	(6.32)	252.5	145.0	....
604	MLP.....	....	(6.70)	265.8	144.7	....
			Alfalfa ⁶	Alfalfa ⁶	Alfalfa ⁶	Potatoes
701	0.....	....	(5.78)	(5.01)	(4.98)	94.8
702	M.....	....	(5.95)	(5.16)	(5.77)	130.3
703	ML.....	....	(6.68)	(5.57)	(5.66)	126.5
704	MLP.....	....	(6.67)	(5.61)	(5.57)	119.8
			Alfalfa ⁶	Alfalfa ⁶	Alfalfa ⁶	Alfalfa
801	0.....	....	(5.56)	(4.98)	(5.27)	....
802	M.....	....	(5.51)	(4.80)	(5.34)	....
803	ML.....	....	(5.42)	(4.55)	(5.40)	....
804	MLP.....	....	(5.77)	(4.90)	(5.17)	....

*No manure.

TABLE 43.—MT. MORRIS FIELD: GENERAL SUMMARY, FULLY TREATED PLOTS

Serial plot No.	Soil treatment applied	Average annual yield—bushels or (tons) per acre				
		Corn 5 crops	Oats 5 crops	Wheat ¹ 4 crops	Clover 4 crops	Potatoes 5 crops
1	0.....	38.4	64.7	23.1	(2.40)	111.0
2	M.....	53.5	68.6	26.0	(2.86)	171.0
3	ML.....	58.4	66.6	26.9	(3.28)	176.4
4	MLP.....	56.8	68.4	29.3	(3.32)	182.6
5	0.....	39.4	59.4	23.2	.75	....
6	R.....	45.5	63.7	26.0	.78	....
7	RL.....	54.6	65.1	29.7	.92	....
8	RLP.....	58.0	67.3	32.7	.71	....
9	RLPK.....	58.0	67.8	34.3	.75	....
10	0.....	40.2	55.5	26.1	(2.15)	....

GENERAL NOTES.—The main rotation and soil treatment are standard, as described in the introduction. The minor rotation is potatoes and alfalfa, the potatoes being grown for two years and the alfalfa for six years; the soil treatment as indicated is standard, as described in the introduction, except that 15 tons per acre of manure is applied for each potato crop.

¹No manure on 1914 wheat.

TABLE 44.—NEWTON FIELD: CROP YIELDS IN SOIL EXPERIMENTS
GRAY SILT LOAM ON TIGHT CLAY, PRAIRIE; LOWER ILLINOISAN GLACIATION

Plot No.	Soil treatment applied	1912	1913	1914	1915	1916	1917
		Corn ¹	Soy-beans ²	Wheat ⁴	Corn	Soy-beans	Wheat
Bushels or (tons) per acre							
101	0.....	22.4	(.38)	0.3	4.4	(.72)	0.0
102	M.....	20.4	(.41)	0.3	4.6	(.78)	.3
103	ML.....	17.0	(.42)	1.8	15.6	(1.10)	12.3
104	MLP.....	28.4	(.50)	4.2	17.6	(1.16)	20.5
105	0.....	29.6	4.3	4.7	9.0	5.7	3.3
106	R.....	17.6	3.0	1.0	7.8	4.5	2.5
107	RL.....	14.2	3.2	1.8	15.6	5.3	11.3
108	RLP.....	28.4	3.8	7.0	18.6	7.7	18.5
109	RLPK.....	19.6	3.2	4.2	18.4	6.0	19.5
110	0.....	15.0	(.29)	0.2	2.8	(.57)	0.0
		Cow-peas ²	Corn	Soy-beans	Wheat	Corn	Soy-beans
201	0.....	....	1.0	2.5	0.3	7.8	(0.0)
202	M.....	....	3.4	(.57)	0.5	12.2	(0.0)
203	ML.....	....	3.4	(.67)	4.8	13.8	(0.05)
204	MLP.....	....	4.4	(.62)	12.7	13.8	(0.05)
205	0.....	....	2.6	4.2	0.3	8.2	(0.07)
206	R.....	....	4.6	5.2	0.5	8.2	....
207	RL.....	....	3.6	5.2	4.5	12.0	....
208	RLP.....	....	3.8	6.0	13.0	11.8	....
209	RLPK.....	....	4.0	4.8	15.0	11.2	....
210	0.....	....	1.2	2.2	0.5	7.4	(0.14)
		Cow-peas ²	Wheat ⁴	Corn	Soy-beans	Oats	Corn
301	0.....	....	0.3	23.2	(.09)	6.6	2.0
302	M.....	....	0.2	26.0	(.09)	6.2	7.4
303	ML.....	....	0.5	25.6	(.18)	20.3	11.0
304	MLP.....	....	1.3	22.2	(.24)	26.2	12.6
305	0.....	....	0.7	16.0	....	5.9	1.4
306	R.....	....	2.0	16.2	....	10.3	2.6
307	RL.....	....	1.7	15.8	....	18.1	5.0
308	RLP.....	....	2.8	16.4	....	25.9	4.0
309	RLPK.....	....	5.0	16.6	....	28.4	10.2
310	0.....	....	0.7	12.2	(.05)	5.6	.8
		Cow-peas ²	Corn	Soy-beans	Wheat	Corn	Soy-beans
401	0.....	....	2.0	8.3	1.2	8.6	(0)
402	M.....	....	3.8	(.74)	2.3	9.6	(.26)
403	ML.....	....	1.6	(.77)	2.8	5.2	(.22)
404	MLP.....	....	1.0	(.74)	9.2	2.6	(.14)
405	0.....	....	1.4	7.0	.7	2.6	(.07)
406	R.....	....	0.6	7.8	.5	2.4	....
407	RL.....	....	0.2	8.2	1.5	1.2	....
408	RLP.....	....	0.0	8.2	7.3	.4	....
409	RLPK.....	....	0.2	8.5	13.2	.8	....
410	0.....	....	0.0	5.8	0.3	.6	(.02)

¹No treatment. ²Plot yields not taken. ³Residues and lime only. ⁴No manure.

TABLE 44a.—NEWTON FIELD: GENERAL SUMMARY, FULLY TREATED PLOTS IN SOIL EXPERIMENTS

Serial plot No.	Soil treatment applied	Average annual yields—bushels or (tons) per acre		
		Corn 7 crops	Soybeans 6 crops	Wheat 4 crops ¹
1	0.....	7.0	(.30)	.4
2	M.....	9.6	(.41)	.9
3	ML.....	10.9	(.50)	5.4
4	MLP.....	10.6	(.49)	11.6
5	0.....	5.9	3.0	2.2
6	R.....	6.1	2.9	1.1
7	RL.....	7.6	3.1	4.8
8	RLP.....	7.9	3.7	11.4
9	RLPK ..	8.8	3.2	13.0
10	0.....	3.6	(.25)	.2

GENERAL NOTES FOR NEWTON FIELD.—On Series 100, 200, and 300 the rotation is corn with legume cover crop, soybeans or cowpeas, and wheat with legume cover crops. These three series are tile-drained. The same rotation is practiced on Series 400 but without tile drainage. The soil treatment on these four series is standard, as described in the introduction. Dolomitic limestone is used at the rate of 1,000 pounds per acre per year, the fineness being from 10-mesh down; that is, the total product passing thru a sieve with 10 meshes to the inch.

Series 500, 600, 700, 800, 900, and 1,000 (see Table 45) are used primarily to determine the effectiveness of different forms, kinds, amounts, and degrees of fineness of lime. The odd-numbered series (500, 700, 900) receive applications of high-calcium limestone or burnt lime, and the even-numbered series (600, 800, 1,000) receive dolomitic limestone or burnt lime. Plots 2, 3, 4, 5, and 6 on all series receive 500 pounds per acre per year; Plots 8, 9, 10, 11, and 12 receive 1,000 pounds; and Plots 14, 15, 16, 17, and 18 receive 2,000 pounds; all applications being based upon the equivalent of pure calcium carbonate. The rotation of these plots is the same as indicated above, and apart from the lime the soil treatments are standard. The main tile drain runs between Plots 16 and 17 across Series 500 to 1,000, thru a strip of low ground, and the nearby plots, especially Nos. 17 and 18 appear to be naturally more productive than the average.

¹No manure on 1914 wheat.

TABLE 45.—NEWTON FIELD: CROP YIELDS IN LIME EXPERIMENTS

Plot No.	Soil treatment applied	Limestone fineness, meshes per inch	1912	1913	1914	1915	1916	1917
			Corn ¹	Soy-beans ²	Wheat	Corn	Soy-beans	Wheat
Bushels per acre								
501	RPK		15.4	4.3	4.7	7.8	3.2	9.0
502	RPKL	4 down	18.8	4.3	5.7	15.4	6.7	19.5
503	RPKL	4 to 10	19.0	3.7	5.8	13.0	5.5	15.0
504	RPKL	10 down	20.0	3.3	5.2	15.0	5.5	18.3
505	RPKL	50 down	18.4	3.5	4.7	12.0	4.5	17.7
506	RPKL	Burnt	18.4	3.2	5.2	8.4	3.5	16.2
507	RPK		16.0	3.0	3.5	2.2	1.7	7.8
508	RPKL	4 down	19.6	3.2	4.8	7.4	4.2	16.0
509	RPKL	4 to 10	18.8	4.0	3.2	7.2	4.2	17.2
510	RPKL	10 down	17.0	3.2	4.5	9.8	6.0	19.5
511	RPKL	50 down	14.0	5.0	6.3	10.2	5.7	18.3
512	RPKL	Burnt	19.8	4.5	4.8	7.8	6.0	18.5
513	RPK		11.4	4.7	2.3	3.0	3.3	6.5
514	RPKL	4 down	14.2	4.2	6.8	13.4	9.2	21.2
515	RPKL	4 to 10	15.4	4.2	4.0	11.4	8.2	18.3
516	RPKL	10 down	14.8	4.8	8.8	16.4	8.0	23.5
517	RPKL	50 down	13.0	3.5	9.2	14.8	8.7	25.7
518	RPKL	Burnt	11.6	4.5	11.5	12.0	8.3	21.5
519	RPK		11.0	4.0	1.5	2.8	1.3	6.5
			Corn ¹	Soy-beans ²	Wheat	Corn	Soy-beans	Wheat
601	RPK		22.0	3.0	2.5	4.0	4.7	3.2
602	RPKL	4 down	25.6	2.0	5.0	13.4	8.0	22.8
603	RPKL	4 to 10	25.6	3.2	16.8	17.6	9.5	26.5
604	RPKL	10 down	22.0	2.5	9.2	17.0	5.8	24.5
605	RPKL	50 down	18.8	3.7	4.8	12.8	3.5	18.5
606	RPKL	Burnt	13.8	1.7	2.3	7.6	3.3	17.2
607	RPK		16.2	1.8	2.3	1.4	2.0	11.3
608	RPKL	4 down	13.4	1.2	1.5	5.0	3.7	15.3
609	RPKL	4 to 10	13.8	1.2	1.5	5.2	3.2	11.8
610	RPKL	10 down	15.8	1.2	1.7	6.0	3.7	16.8
611	RPKL	50 down	12.0	1.7	1.5	5.6	3.2	13.3
612	RPKL	Burnt	10.6	2.5	1.8	3.8	3.0	12.7
613	RPK		12.6	1.5	1.3	1.0	2.2	7.2
614	RPKL	4 down	12.0	2.2	2.2	7.4	5.8	20.0
615	RPKL	4 to 10	11.0	1.3	2.3	8.8	6.5	16.5
616	RPKL	10 down	8.2	2.0	4.2	16.4	5.8	20.3
617	RPKL	50 down	8.4	2.2	5.7	17.8	6.8	22.2
618	RPKL	Burnt	7.0	4.2	8.5	12.8	7.3	16.7
619	RPK		7.0	3.3	6.3	3.6	4.2	5.2

NOTE.—See "general notes," Table 44a, preceding page, for explanation of limestone treatment.

¹No treatment. ²No phosphorus or potassium.

TABLE 45.—NEWTON FIELD, *Continued*

Plot No.	Soil treatment applied	Limestone fineness, meshes per inch	1912 Cow-peas ^{1,2}	1913 Corn	1914 Soy-beans	1915 Wheat	1916 Corn	1917 Soy-beans ²
701	RPK	.....	....	2.0	9.8	7.0	9.8	....
702	RPKL	4 down	....	1.6	11.0	17.3	12.6	....
703	RPKL	4 to 10	....	1.6	10.7	14.7	11.4	....
704	RPKL	10 down	....	2.8	10.2	18.8	11.4	....
705	RPKL	50 down	....	1.0	9.7	18.7	8.8	....
706	RPKL	Burnt	....	.2	10.2	18.7	6.8	....
707	RPK	.....	....	.2	9.5	10.3	4.8	....
708	RPKL	4 down	....	.2	11.5	16.0	5.4	....
709	RPKL	4 to 10	....	.2	11.5	13.5	4.4	....
710	RPKL	10 down	....	.2	13.2	16.5	3.8	....
711	RPKL	50 down	....	.4	11.2	17.0	3.2	....
712	RPKL	Burnt	....	.2	12.0	18.8	3.4	....
713	RPK	.....	....	.4	10.5	4.0	3.2	....
714	RPKL	4 down	....	.2	12.5	16.7	1.8	....
715	RPKL	4 to 10	....	.4	11.3	15.3	2.6	....
716	RPKL	10 down	....	.2	11.7	17.5	3.0	....
717	RPKL	50 down	....	.4	14.7	23.8	4.8	....
718	RPKL	Burnt	....	.8	12.3	23.3	6.4	....
719	RPK	.....	....	.4	7.7	5.7	6.0	....
			Cow-peas ^{1,2}	Corn	Soy-beans	Wheat	Corn	Soy-beans
801	RPK	.....	....	.2	9.8	11.2	3.4	....
802	RPKL	4 down	....	.2	10.2	14.0	3.2	....
803	RPKL	4 to 10	....	.2	8.3	11.8	4.2	....
804	RPKL	10 down	....	.0	10.2	13.7	3.4	....
805	RPKL	50 down	....	.4	9.0	12.8	5.4	....
806	RPKL	Burnt	....	.4	10.0	17.5	8.4	....
807	RPK	.....	....	.4	8.8	6.0	6.0	....
808	RPKL	4 down	....	.2	10.3	16.3	8.8	....
809	RPKL	4 to 10	....	.4	11.2	12.2	8.8	....
810	RPKL	10 down	....	.4	11.2	17.0	8.4	....
811	RPKL	50 down	....	.2	11.2	19.5	7.0	....
812	RPKL	Burnt	....	.2	10.7	23.7	8.4	....
813	RPK	.....	....	.4	9.5	5.0	5.4	....
814	RPKL	4 down	....	.2	11.3	19.0	4.8	....
815	RPKL	4 to 10	....	.4	11.0	12.8	6.6	....
816	RPKL	10 down	....	.4	12.2	18.3	6.2	....
817	RPKL	50 down	....	.4	14.0	26.0	7.4	....
818	RPKL	Burnt	....	1.8	15.0	30.2	10.2	....
819	RPK	.....	....	3.0	7.7	7.2	9.6	....

¹Phosphorus and potassium only. ²Crop failure.

TABLE 45.—NEWTON FIELD, *Concluded*

Plot No.	Soil treatment applied	Limestone fineness, meshes per inch	1912	1913	1914	1915	1916	1917
			Cow-peas ^{1,2}	Wheat	Corn	Soy-beans ²	Wheat ²	Corn
Bushels per acre								
901	RPK	.....	...	4.5	6.4	....	....	4.2
902	RPKL	4 down	...	6.3	13.4	....	....	4.4
903	RPKL	4 to 10	...	7.5	17.6	....	....	2.8
904	RPKL	10 down	...	7.0	18.8	....	....	2.6
905	RPKL	50 down	...	8.0	21.6	....	....	4.0
906	RPKL	Burnt	...	9.3	19.6	....	....	4.6
907	RPK	.....	...	8.0	17.2	....	....	2.2
908	RPKL	4 down	...	9.0	20.0	....	....	4.8
909	RPKL	4 to 10	...	9.0	19.4	....	....	1.6
910	RPKL	10 down	...	9.2	15.2	....	....	3.4
911	RPKL	50 down	...	12.2	11.4	....	....	4.4
912	RPKL	Burnt	...	11.3	10.2	....	....	6.6
913	RPK	.....	...	8.5	12.8	....	....	3.2
914	RPKL	4 down	...	10.0	14.2	....	....	7.8
915	RPKL	4 to 10	...	8.2	15.0	....	....	6.6
916	RPKL	10 down	...	12.8	16.8	....	....	9.0
917	RPKL	50 down	...	13.5	9.6	....	....	10.8
918	RPKL	Burnt	...	14.2	17.2	....	....	12.0
919	RPK	.....	...	8.5	29.8	....	....	4.8
			Cow-peas ^{1,2}	Wheat	Corn	Soy-beans ²	Wheat ²	Corn
1001	RPK	.....	...	12.2	12.4	....	....	4.4
1002	RPKL	4 down	...	12.3	17.6	....	....	4.2
1003	RPKL	4 to 10	...	13.3	22.6	....	....	4.8
1004	RPKL	10 down	...	12.3	23.4	....	....	5.2
1005	RPKL	50 down	...	11.2	21.6	....	....	5.2
1006	RPKL	Burnt	...	13.5	20.6	....	....	7.2
1007	RPK	.....	...	13.7	28.0	....	....	5.4
1008	RPKL	4 down	...	15.7	35.0	....	....	9.0
1009	RPKL	4 to 10	...	14.0	30.0	....	....	3.4
1010	RPKL	10 down	...	13.0	24.6	....	....	2.8
1011	RPKL	50 down	...	12.5	13.2	....	....	3.2
1012	RPKL	Burnt	...	12.7	13.8	....	....	3.4
1013	RPK	.....	...	12.0	14.0	....	....	2.8
1014	RPKL	4 down	...	13.8	13.8	....	....	6.8
1015	RPKL	4 to 10	...	15.2	17.2	....	....	10.0
1016	RPKL	10 down	...	19.0	18.8	....	....	16.2
1017	RPKL	50 down	...	17.2	14.0	....	....	10.4
1018	RPKL	Burnt	...	16.2	22.6	....	....	11.8
1019	RPK	.....	...	17.2	28.2	....	....	5.4

¹No treatment. ²Crop failure.

TABLE 46.—OBLONG FIELD: CROP YIELDS IN SOIL EXPERIMENTS
GRAY SILT LOAM ON TIGHT CLAY, PRAIRIE: LOWER ILLINOISAN GLACIATION

Plot No.	Soil treatment applied	1912	1913	1914	1915	1916	1917
		Oats ¹	Clover ²	Wheat	Corn	Oats	Clover
Bushels or (tons) per acre							
101	O.....	12.0	(0.0)	4.6	31.5	13.1	(0.0)
102	M.....	23.0	(.27)	25.0	45.3	23.9	(.43)
103	ML.....	24.2	(.32)	26.8	51.8	30.8	(.90)
104	MLP.....	25.0	(.33)	28.8	51.5	31.1	(1.15)
105	O.....	22.7	0.0	7.5	28.4	6.7	0.0
106	R.....	24.7	0.0	8.3	30.9	16.4	0.0
107	RL.....	26.7	.25	21.7	42.3	30.2	2.92
108	RLP.....	29.2	.50	26.2	49.4	38.1	2.50
109	RLPK.....	31.2	.33	30.2	56.5	36.2	3.50
110	O.....	25.0	(0)	5.3	23.3	6.2	(0.0)
		Corn ¹	Oats ²	Soy-beans ²	Wheat ²	Corn	Oats
201	O.....	14.2	1.2	4.6	9.2	11.3	36.6
202	M.....	27.3	1.7	(.64)	10.8	19.0	52.3
203	ML.....	46.3	7.5	(.95)	11.1	33.0	59.4
204	MLP.....	58.6	7.2	(.86)	16.2	34.6	64.7
205	O.....	45.3	5.5	7.4	5.7	20.9	49.2
206	R.....	37.7	6.4	7.0	8.8	23.4	52.3
207	RL.....	45.7	6.9	7.9	10.2	29.9	62.2
208	RLP.....	49.3	5.2	7.1	13.7	26.9	67.0
209	RLPK.....	53.9	5.2	7.8	15.8	32.6	67.7
210	O.....	43.7	1.9	6.9	3.1	12.4	36.1
		Wheat ¹	Corn	Oats	Soy-beans	Wheat	Corn
301	O.....	....	12.6	11.6	(1.09)	....	17.1
302	M.....	....	11.9	14.8	(1.44)	....	29.3
303	ML.....	....	11.2	19.7	(1.64)	....	48.4
304	MLP.....	....	10.1	21.9	(1.85)	....	50.7
305	O.....	....	14.5	12.3	14.3	....	21.4
306	R.....	....	9.5	22.5	13.9	....	28.7
307	RL.....	....	10.0	26.9	15.8	....	36.1
308	RLP.....	....	10.9	27.8	13.8	....	42.6
309	RLPK.....	....	12.8	31.9	15.8	....	55.9
310	O.....	....	14.4	13.4	(1.49) ³	....	29.4
		Soy-beans ¹	Wheat ²	Corn	Oats	Clover	Wheat
401	O.....	(.42)	.8	15.2	28.3	(.45)	7.5
402	M.....	(.45)	1.5	16.5	43.4	(.64)	16.9
403	ML.....	(.55)	3.9	16.4	58.6	(1.15)	21.0
404	MLP.....	(.71)	6.9	20.1	57.0	(1.52)	30.1
405	O.....	7.7	3.1	20.1	39.4	.50	14.4
406	R.....	8.2	3.2	23.7	36.1	.40	20.4
407	RL.....	10.6	6.4	27.8	48.6	1.42	28.2
408	RLP.....	11.1	10.7	30.2	60.3	3.33	35.3
409	RLPK.....	11.9	14.7	27.6	59.7	2.92	31.4
410	O.....	(.85)	1.2	17.2	29.2	(.44)	13.4

¹No manure or residues. ²No manure. ³Estimated.

TABLE 47.—OBLONG FIELD: GENERAL SUMMARY, FULLY TREATED PLOTS

Serial plot No.	Soil treatment applied	Average annual yields—bushels or (tons) per acre				
		Corn 5 crops	Oats 4 crops	Wheat 4 crops ¹	Clover 2 crops	Soybeans 2 crops ¹
1	0.....	17.6	22.4	5.3	(.22)	(.79)
2	M.....	24.4	33.6	13.2	(.53)	(1.04)
3	ML.....	32.2	42.1	14.7	(1.02)	(1.30)
4	MLP.....	33.4	43.7	18.8	(1.33)	(1.36)
5	0.....	21.1	26.9	6.9	.25	10.9
6	R.....	23.2	31.8	9.4	.20	10.4
7	RL.....	29.2	42.0	15.0	2.17	11.9
8	RLP.....	32.0	48.3	18.8	2.91	10.4
9	RLPK.....	37.1	48.9	19.3	3.21	11.8
10	0.....	19.3	21.2	5.4	(.22)	(1.18)

NOTE.—The crop rotation and soil treatment are standard, as described in the introduction.

¹No manure on 1914 soybeans nor on 1915 wheat.

TABLE 48.—ODIN FIELD: CROP YIELDS IN SOIL EXPERIMENTS
GRAY SILT LOAM ON TIGHT CLAY; LOWER ILLINOISAN GLACIATION

Plot No.	Soil treatment applied	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917
		Corn ²	Oats ¹	Wheat	Cowpea hay ³	Corn	Cowpea hay	Wheat	Cowpea hay	Corn	Soy-beans	Wheat	Clover	Corn	Soy-beans	Wheat	Clover
Bushels or (tons) per acre																	
Land Not Tile-drained																	
101	0.....	12.1	6.9	7.9	...	31.6	(.90)	17.3	(.65)	25.3	7.4	...	...	4.0	5.3	1.2	...
102	R.....	7.2	5.2	5.4	...	28.6	(.95)	14.5	(.67)	28.8	8.3	...	...	2.9	4.7	3.7	...
103	RL.....	8.8	6.2	10.7	...	28.5	(1.00)	18.5	(1.11)	38.0	10.1	...	...	1.8	15.7	9.8	...
104	RLP.....	4.9	8.6	21.6	...	30.8	(1.08)	26.6	(1.30)	36.6	6.9	...	...	2.3	16.7	15.8	...
105	RLPK.....	14.4	25.8	24.4	...	35.3	(1.80)	32.6	(1.52)	81.0	13.7	...	...	3.9	16.6	24.0	...
Land Tile-drained																	
106	0.....	11.5	8.1	6.7	...	31.7	(.76)	16.3	(.67)	26.1	8.1	...	...	4.3	10.2	2	...
107	R.....	13.5	8.8	8.5	...	40.1	(1.00)	21.2	(.95)	38.9	8.8	...	...	4.8	8.2	5.4	...
108	RL.....	9.7	7.2	9.6	...	34.5	(.98)	22.1	(1.02)	39.9	7.2	...	...	2.8	24.4	9.2	...
109	RLP.....	9.5	12.3	21.5	...	33.7	(1.01)	28.9	(1.61)	42.0	7.2	...	...	2.0	15.3	17.1	...
110	RLPK.....	20.7	28.9	25.4	...	43.9	(1.32)	34.8	(1.99)	84.5	12.6	...	...	4.1	10.1	21.6	...
Land Not Tile-drained																	
	Oats ¹	...	Wheat	Cowpeas ³	Corn	Cowpea hay	Wheat	Cowpeas	Corn	Soy-beans	Wheat	Soy-beans	Corn	Soy-beans	Wheat	Clover seed	Corn
201	0.....	15.8	.4	...	36.1	(.93)	14.2	1.7	27.9	8.3	5.3	11.7	3.7	4.4	11.9	.42	8.4
202	R.....	16.1	.6	...	46.7	(1.08)	15.1	2.9	31.3	9.8	5.8	17.1	5.4	4.9	15.0	1.25	10.2
203	RL.....	14.1	.7	...	59.9	(.93)	18.6	2.5	27.3	5.3	15.0	20.4	4.2	5.0	16.0	1.67	7.5
204	RLP.....	16.7	5.8	...	57.7	(1.25)	26.8	2.3	35.2	8.8	16.6	21.5	4.3	5.2	25.0	1.67	9.5
205	RLPK.....	18.8	14.0	...	79.5	(2.47)	29.8	4.6	69.1	11.7	19.2	27.9	11.7	6.7	29.7	1.83	33.7
Land Tile-drained																	
206	0.....	12.2	.6	...	42.6	(.83)	14.3	1.4	25.5	6.6	4.9	5.6	2.0	3.6	14.3	.92	10.4
207	R.....	10.3	.6	...	37.4	(1.03)	16.9	2.3	26.3	6.8	6.7	6.1	2.1	3.8	14.3	1.50	14.1
208	RL.....	11.7	2.1	...	57.9	(1.30)	21.1	2.7	30.4	9.6	9.4	12.4	4.0	7.8	25.9	3.08	15.5
209	RLP.....	19.2	13.4	...	65.8	(1.68)	29.5	1.8	41.3	8.7	19.5	16.7	9.7	8.7	29.6	2.83	17.1
210	RLPK.....	17.7	15.2	...	71.6	(2.27)	31.8	3.9	55.3	14.3	23.2	23.1	8.6	7.6	31.8	2.00	27.4

¹No residue.²Treatment applied: 625 pounds dried blood, 330 pounds steamed bone and 240 pounds acidulated bone; 140 pounds muriate of potash, and 475 pounds slacked lime.³Removed on Plots 1 and 6 and plowed under on others.

TABLE 48.—ODIN FIELD, Concluded

Plot No.	Soil treatment applied	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917
		Corn ¹	Cow-peas ³	Corn	Oats	Wheat	Cowpea hay	Corn	Soy-beans	Wheat	Soy-beans	Corn	Soy-beans	Soy-beans	Wheat	Corn	Soy-beans	Soy-beans
Bushels or (tons) per acre																	
Land Not Tile-drained																	
301	0.....	19.5	.....	53.1	23.0	12.1	(1.24)	39.3	7.4	11.7	11.3	30.3	3.0	5.0	3.9	15.8	3.1
302	R.....	10.7	.....	48.8	19.4	13.7	(1.29)	31.4	9.2	7.8	11.7	27.8	2.9	2.7	2.0	18.0	4.2
303	RL.....	8.8	.....	44.1	30.3	19.2	(.87)	33.0	5.0	26.3	6.9	44.2	2.4	14.9	7.6	22.8	5.7
304	RLP.....	10.7	.....	44.1	39.2	21.1	(.94)	43.0	5.2	32.4	9.5	46.6	3.1	15.4	8.6	21.4	4.9
305	RLPK.....	14.5	.....	66.6	31.9	29.2	(2.13)	66.4	2.8	34.1	14.0	63.0	3.8	17.9	10.4	25.7	7.3
Land Tile-drained																	
306	0.....	7.5	.....	29.4	24.8	11.2	(1.24)	28.6	3.4	6.3	6.1	27.7	3.4	2.4	4.3	10.0	4.4
307	R.....	10.0	.....	31.6	24.5	15.5	(1.34)	28.3	3.9	4.4	6.8	35.7	2.9	2.8	5.2	14.2	5.8
308	RL.....	10.0	.....	42.8	22.0	20.7	(1.14)	37.5	3.0	19.6	5.8	51.9	5.0	19.0	11.5	17.7	6.8
309	RLP.....	15.6	.....	45.9	26.3	24.8	(.94)	42.6	1.4	31.3	7.0	55.9	4.6	20.0	10.3	18.0	6.9
310	RLPK.....	16.3	.....	64.1	31.1	31.5	(2.31)	70.0	4.5	29.2	12.7	50.9	5.7	20.8	10.7	33.2	8.5
Land Not Tile-drained																	
401	0.....	(2.09)	17.9	28.6	15.2	(.22)	48.8	8.6	14.6	(.95)	21.2	13.9	18.5	7.8	43.7	6.0	20.1
402	R.....	.....	16.6	36.7	16.6	(.28)	44.4	11.7	15.3	(.93)	23.5	17.8	16.7	8.0	47.0	8.3	16.9
403	RL.....	.....	20.2	41.4	24.8	(.32)	45.3	14.0	20.3	(.66)	22.3	18.2	28.2	14.2	46.3	7.6	26.0
404	RLP.....	.....	18.3	39.8	36.5	(.34)	45.7	16.8	27.2	(.52)	21.2	13.7	35.0	12.3	43.5	4.8	28.2
405	RLPK.....	.....	22.3	39.7	35.8	(1.27)	67.1	19.3	31.8	(.96)	43.4	15.4	33.2	12.4	58.2	5.8	27.8
Land Tile-drained																	
406	0.....	(1.88)	8.7	25.1	10.8	(.37)	33.2	7.8	14.0	(.65)	8.9	8.8	16.2	5.9	23.4	5.6	11.0
407	R.....	.....	12.8	33.4	18.7	(.36)	48.8	7.8	18.4	(.65)	15.4	11.4	24.2	9.4	36.7	7.1	21.6
408	RL.....	.....	17.6	53.3	23.9	(.50)	49.3	11.8	19.4	(.46)	25.1	17.4	31.4	12.2	45.3	5.8	19.7
409	RLP.....	.....	15.9	44.8	35.3	(.63)	45.6	12.8	25.4	(.41)	21.5	18.7	36.9	9.8	41.7	4.1	23.1
410	RLPK.....	.....	15.0	43.1	28.4	(1.31)	62.3	13.0	27.8	(.99)	32.7	25.2	40.7	8.2	49.2	7.5	24.8

¹No residue. ²Removed on Plots 1 and 6 and plowed under on others.

TABLE 48a.—ODIN FIELD: CROP YIELDS IN PHOSPHATE EXPERIMENTS
Bushels or (tons) per acre

Plot No.	Soil treatment applied	1904 Corn ¹	1905 Oats	1906 Timothy hay	1907 Timothy hay	1908 Timothy & clover hay	1909 Corn	1910 Oats	1911 Timothy hay	1912 Timothy hay	1913 Timothy hay	1914 Corn	1915 Oats	1916 Timothy & clover	1917 Timothy
501W	RK(bP).....	52.5	22.6	(.82)	(1.06)	(1.09)	39.1	55.6	(.55)	(1.26)	(.84)	2.6	74.5	(1.19)	(1.61)
501E	RKL(bP).....	53.8		(.85)	(1.64)	(1.88)	45.3	55.5	(.93)	(1.50)	(1.03)	2.7	65.4	(1.10)	(1.75)
502W	RK.....	41.0	24.4	(.64)	(.98)	(.72)	39.5	44.1	(.35)	(.67)	(.49)	2.4	62.8	(.49)	(.75)
502E	RKL.....	33.8		(.96)	(1.06)	(1.46)	44.2	48.5	(.92)	(1.31)	(.73)	2.2	58.9	(.98)	(1.64)
503W	RK(aP).....	50.0		(.71)	(1.01)	(.70)	38.3	53.9	(.83)	(.93)	(.47)	1.4	77.5	(.57)	(.62)
503E	RKL(aP).....	49.0	27.1	(1.06)	(1.19)	(1.45)	39.9	42.8	(1.05)	(1.39)	(1.00)	1.8	60.6	(1.04)	(1.73)
504W	RK(rP).....	46.8		(.64)	(.91)	(.67)	32.5	50.5	(.59)	(.95)	(.55)	1.6	79.8	(.51)	(.76)
504E	RKL(rP).....	49.5	26.4	(1.08)	(1.20)	(1.63)	44.7	52.4	(1.25)	(1.52)	(1.02)	2.6	66.4	(1.09)	(1.67)
505W	RK.....	33.0		(.57)	(.85)	(.47)	31.1	40.1	(.24)	(1.12)	(.41)	1.0	55.8	(.33)	(.44)
505E	RKL.....	38.5	27.4	(1.04)	(1.14)	(1.29)	41.5	50.0	(.99)	(1.52)	(.76)	1.8	66.9	(1.03)	(1.47)
506W	RK(sP).....	46.0		(.64)	(.94)	(.74)	34.0	47.6	(.48)	(1.13)	(.72)	1.8	78.0	(.87)	(.83)
506E	RKL(sP).....	51.0	25.2	(.87)	(1.48)	(1.66)	44.9	61.4	(1.17)	(1.38)	(1.04)	2.2	80.8	(1.08)	(1.52)

GENERAL NOTES.—The rotation practiced in the soil experiments (Series 100 to 400) is corn, legumes (cowpeas or soybeans), wheat, and clover. Cowpeas are seeded in the corn at the last cultivation. Phosphorus is applied in 200 pounds of steamed bone meal, and potassium in 100 pounds of potassium sulfate, per acre per annum; 475 pounds of slacked lime was applied in 1902, 2 tons in 1903, and beginning with 1908 limestone was applied at the yearly acre-rate of 500 pounds to the west half and 1,000 pounds to the east half, of each limed plot. Crop residues and cover crops are plowed under on the residue plots.

The rotation in the phosphate experiments consists of corn, oats, and three years of clover and timothy hay. This field was planned to test the efficiency of equal money values of steamed bone meal, acid phosphate, rock phosphate, and slag phosphate on limed and unlimed land. Potassium is applied in 100 pounds of potassium sulfate per acre per year. Two hundred pounds of steamed bone meal is applied as the standard phosphorus application, the other forms are applied in equal money values (333 pounds of acid phosphate, 666 of rock phosphate, and 260 of slag phosphate per acre per year). The first application of lime was made in 1904 at the rate of 1½ tons per acre. Subsequent applications have been made at about the rate of 1,000 pounds per acre per annum.

¹No residue.

TABLE 48b.—ODIN FIELD: SOIL EXPERIMENTS; GENERAL SUMMARY

Serial plot No.	Soil treatment applied	Average annual yields—bushels or (tons) per acre					
		Corn 15 crops	Wheat 15 crops	Peas or beans 15 crops	Clover 3 crops	Cowpea hay 9 crops	Oats 2 crops
Land Not Tile-drained							
1	0.....	27.1	10.4	6.9	.14	(.54)	25.8
2	R.....	27.4	10.0	8.2	.41	(.58)	28.0
3	RL.....	29.7	16.6	9.4	.56	(.54)	35.9
4	RLP.....	30.7	22.3	9.3	.56	(.60)	39.5
5	RLPK.....	48.5	25.6	11.5	.30	(1.13)	35.8
Land Tile-drained							
6	0.....	20.8	8.6	5.7	.15	(.50)	25.0
7	R.....	25.8	11.9	6.4	.25	(.59)	29.0
8	RL.....	31.5	16.9	9.6	.51	(.60)	37.7
9	RLP.....	33.3	23.8	8.9	.47	(.69)	35.6
10	RLPK.....	44.9	25.8	11.2	.33	(1.13)	27.1
Phosphate Experiments							
Plot No.	Soil treatment applied	Timothy & clover hay 8 crops	Corn 2 crops	Oats 2 crops			
501W	RK(bP).....	(1.11)	20.9	65.0	....	....	....
501 E	RKL(bP).....	(1.35)	24.0	60.4	....	....	....
502W	RK.....	(.78)	21.0	53.4	....	....	....
502 E	RKL.....	(1.04)	23.2	53.7	....	....	....
503W	RK(aP).....	(.91)	19.9	65.7	....	....	....
503 E	RKL(aP).....	(1.11)	20.9	51.7	....	....	....
504W	RK(rP).....	(.85)	17.0	65.1	....	....	....
504 E	RKL(rP).....	(1.21)	23.7	59.4	....	....	....
505W	RK.....	(.72)	16.0	48.0	....	....	....
505 E	RKL.....	(1.03)	21.7	58.4	....	....	....
506W	RK(sP).....	(.93)	17.9	62.8	....	....	....
506 E	RKL(sP).....	(1.21)	23.6	71.1	....	....	....

TABLE 49.—ODIN FIELD: CROP YIELDS IN SOIL EXPERIMENTS, THREE- AND FOUR-YEAR SWEET-CLOVER ROTATIONS
GRAY SILT LOAM ON TIGHT CLAY; LOWER ILLINOISAN GLACIATION

Year	Soil treatment applied	Three-year rotation			Four-year rotation			
		Corn	Soy-beans	Wheat	Corn	Soy-beans	Wheat	Sweet Clover
Bushels or (tons) per acre								
1906	RLP.....	38.3	(1.90) ¹	28.3	24.0	(1.60) ¹	32.7	(⁴)
1907	RLP.....	46.8	(1.27) ¹	24.0	51.5	(1.39) ¹	30.0	(⁴)
1908	RLP.....	49.0	9.6	30.7	58.3	8.8	27.7	(⁴)
1909	RLP.....	24.4	.7	23.3	39.2	1.5	25.5	(⁴)
1910	RLP.....	32.7	3.9	39.4 ³	41.3	5.0	70.3 ³	6.90
1911	RLP.....	25.3	8.0	12.8	59.5	7.1	17.2	3.60
1912	RLP.....	54.4	11.1	(²)	68.4	18.6	....²	(⁴)
1913	RLP.....	7.3	(²)	22.7	10.3	3.9	40.8	(⁴)
1914	RLP.....	7.3	2.2	12.8	2.0	4.4	23.3	....
1915	RLP.....	42.0	1.7	27.8	59.7	1.7	24.7	.83
1916	RLP.....	18.4	.6	2.2	19.8	8.0	2.2	2.78
1917	RLP.....	14.0	5.0	10.0	19.7	11.1	39.2	1.25
Average.....		29.9	4.3	17.7	37.6	7.0	23.9	....
Number of years averaged.....		12	10	11	12	10	11	....

GENERAL NOTES.—The rotation followed on these plots is corn, soybeans, and wheat with sweet-clover seeding. In the three-year rotation the sweet clover is not allowed to stand over the next year, but is plowed for corn the year after seeding. In the four-year rotation the sweet clover is allowed to stand over as a regular crop, to be followed by corn. All residues produced are returned to the land, and limestone at the rate of 1,000 pounds per acre per year and steamed bone meal at the rate of 200 pounds per acre per year are applied for the wheat.

¹Cowpeas. ²Not harvested. ³Oats; wheat destroyed by grasshoppers.
⁴No yields; sweet clover plowed under.

TABLE 50.—OQUAWKA FIELD: CROP YIELDS IN SOIL EXPERIMENTS
DUNE SAND; TERRACE

Plot No.	Soil treatment applied	1914 ¹	1915	1916	1917
		Corn	Soybeans ²	Wheat	Sweet clover
		Bushels or (tons) per acre			
101	O.....	25.3	(1.16)	10.4	(0.0)
102	M.....	21.0	(1.24)	13.1	(0.0)
103	ML.....	17.1	(1.38)	12.8	(1.03)
104	MLP.....	23.5	(1.53)	14.2	(1.47)
105	O.....	22.7	8.2	14.3	0.0
106	R.....	24.6	8.5	13.1	0.0
107	RL.....	21.9	9.3	12.2	1.39
108	RLP.....	24.1	10.0	15.8	1.48
109	RLPK.....	26.6	11.7	10.2	2.52
110	O.....	19.2	(1.21)	8.5	(0.0)
		Rye	Corn	Soybeans	Wheat
201	O.....	6.8	5.0	(.28)	0
202	M.....	6.5	11.8	(.31)	0
203	ML.....	6.7	14.6	(.48)	0
204	MLP.....	7.4	14.0	(.57)	0
205	O.....	7.0	7.1	1.0	0
206	R.....	6.6	12.9	1.4	0
207	RL.....	6.2	9.2	2.2	0
208	RLP.....	6.4	12.1	1.8	0
209	RLPK.....	4.9	8.3	2.0	0
210	O.....	6.2	3.5	(.22)	0
		Cowpeas	Rye ²	Corn	Soybeans
301	O.....	(.50)	23.9	14.5	(1.48)
302	M.....	(.54)	21.0	12.7	(1.62)
303	ML.....	(.54)	20.7	13.2	(1.70)
304	MLP.....	(.55)	23.4	13.0	(1.56)
305	O.....	3.5	19.1	11.8	7.0
306	R.....	3.6	21.2	13.0	4.3
307	RL.....	4.8	21.7	12.6	8.2
308	RLP.....	4.5	21.8	12.1	8.2
309	RLPK.....	4.3	21.6	12.1	9.6
310	O.....	3.9	18.6	7.5	(1.18)
		Wheat	Cowpeas ²	Rye ²	Corn
401	O.....	6.2	(1.28)	21.2	24.6
402	M.....	5.4	(1.44)	23.2	30.8
403	ML.....	6.0	(1.51)	25.0	32.4
404	MLP.....	7.8	(1.53)	26.3	34.1
405	O.....	7.2	7.8	19.1	24.2
406	R.....	7.9	7.9	21.1	26.1
407	RL.....	7.1	8.3	22.0	28.5
408	RLP.....	5.8	8.7	21.9	24.2
409	RLPK.....	6.8	9.4	21.1	24.9
410	O.....	7.0	(1.22)	17.4	21.0

¹Lime only. ²No manure.

TABLE 50.—OQUAWKA FIELD, *Concluded*

Plot No.	Soil treatment applied	1914	1915	1916	1917
		Soybeans	Wheat	Cowpeas	Rye
Bushels or (tons) per acre					
501	O.....	(.21)	4.8	(.46)	11.2
502	M.....	(.22)	6.2	(.40)	13.5
503	ML.....	(.22)	10.1	(.45)	14.9
504	MLP.....	(.23)	10.9	(.43)	12.9
505	O.....	.7	4.6	2.0	12.1
506	R.....	.8	8.3	2.2	17.2
507	RL.....	.8	8.2	.6	17.8
508	RLP.....	.8	11.5	.3	18.2
509	RLPK.....	1.2	10.1	.3	18.8
510	O.....	(.22)	8.2	(.40)	14.9

GENERAL NOTES.—The rotation consists of corn with catch crop of sand vetch on residue plots, soybeans, wheat, sweet clover, and rye, with catch crop of alsike and sweet clover seeded on residue plots. The soil treatment is standard, as described in the introduction. A sixth series is included in this field, on which alfalfa is being started.

TABLE 51.—PANA FIELD: CROP YIELDS IN SOIL EXPERIMENTS
(See Note to Table 52); MIDDLE ILLINOISAN GLACIATION

Plot No.	Soil treatment applied	1912 ¹	1913	1914	1915	1916	1917
		Oats	Clover ²	Wheat ³	Corn	Oats	Clover
Bushels or (tons) per acre							
101	O.....	....	(.55)	41.8	20.7	53.6	(2.30)
102	M.....	....	(.44)	40.7	26.8	51.6	(2.45)
103	ML.....	....	(.38)	42.1	27.7	58.9	(2.19)
104	MLP.....	....	(.43)	42.7	27.6	55.8	(2.21)
105	O.....	....	.50	39.7	24.2	51.6	.58
106	R.....	....	1.08	41.1	24.1	50.6	.68
107	RL.....	....	.92	43.3	28.0	57.2	.50
108	RLP.....	....	.58	41.8	25.8	53.3	.67
109	RLPK.....	....	.92	42.1	28.9	55.0	.83
110	O.....	....	(.38)	39.3	23.8	52.2	(2.33)
111	CvM.....	....	(.38)	39.2	23.0	54.7	(2.10)
112	CvML.....	....	(.34)	39.4	27.4	50.3	(2.05)
113	CvMLP.....	....	(.41)	33.9	30.7	56.1	(2.46)
114	CvMP.....	....	(.46)	39.8	25.6	60.5	(2.28)
115	O.....	....	(.71)	31.5	30.7	56.1	(2.13)
116	O.....	....	(.63)	36.2	31.1	46.1	(2.19)
		Corn	Oats ³	Clover ³	Wheat ³	Corn	Oats
201	O.....	23.6	11.1	(.41)	26.1	21.8	83.8
202	M.....	24.0	11.1	(.40)	29.2	18.9	79.2
203	ML.....	21.0	11.4	(.57)	34.2	21.0	96.7
204	MLP.....	21.3	11.7	(.67)	34.8	22.2	90.6
205	O.....	24.2	11.4	.33	29.5	13.8	90.5
206	R.....	26.4	10.6	.83	31.8	20.5	93.8
207	RL.....	26.3	11.4	1.17	33.5	31.7	94.8
208	RLP.....	27.9	12.0	1.33	36.0	31.4	98.0
209	RLPK.....	27.6	11.4	1.50	36.3	35.2	98.6
210	O.....	28.8	13.4	(.81)	36.4	21.2	88.1
211	CvM.....	28.7	9.5	(.93)	36.1	19.8	99.4
212	CvML.....	25.9	12.3	(1.04)	35.4	27.8	94.7
213	CvMLP.....	31.0	10.6	(1.32)	36.2	31.3	99.5
214	CvMP.....	31.5	10.2	(1.08)	35.5	27.1	100.8
215	O.....	30.1	8.4	(.93)	37.9	28.8	91.9
216	O.....	26.3	11.7	(.83)	38.7	26.3	91.9

¹No soil treatment; oat yields not taken. ²No organic manure. ³No manure.

TABLE 51.—PANA FIELD, *Concluded*

Plot No.	Soil treatment applied	1912 ¹	1913	1914	1915	1916	1917
		Oats	Corn	Oats	Clover	Wheat	Corn
Bushels or (tons) per acre							
301	0.....	....	29.5	10.2	(2.87)	12.6	44.9
302	M.....	....	28.4	6.7	(3.43)	12.9	47.5
303	ML.....	....	28.9	10.2	(3.75)	14.0	49.5
304	MLP.....	....	33.7	4.5	(3.43)	8.0	44.7
305	0.....	....	28.6	4.5	1.67	7.5	35.9
306	R.....	....	31.8	6.4	1.67	10.8	48.0
307	RL.....	....	34.4	8.1	1.58	11.3	49.3
308	RLP.....	....	34.0	11.2	1.83	10.0	53.5
309	RLPK.....	....	35.3	10.0	1.75	17.1	54.7
310	0.....	....	29.7	10.5	(3.80)	8.4	47.2
311	CvM.....	....	21.8	12.0	(3.91)	17.8	52.4
312	CvML.....	....	24.5	11.7	(3.79)	9.2	51.4
313	CvMLP.....	....	21.5	11.7	(3.58)	12.0	50.0
314	CvMP.....	....	19.9	10.5	(3.96)	11.1	42.2
315	0.....	....	25.8	6.4	(3.69)	9.8	42.7
316	0.....	....	26.1	6.4	(3.62)	13.3	43.6
		Soybeans	Wheat ³	Corn	Oats	Clover	Wheat
401	0.....	(1.52)	19.7	17.1	41.1	(1.01)	11.8
402	M.....	(1.67)	16.5	15.4	51.1	(1.40)	12.2
403	ML.....	(1.44)	17.7	17.0	55.0	(2.44)	25.8
404	MLP.....	(1.41)	15.0	13.5	55.9	(2.38)	32.8
405	0.....	9.0	11.9	10.7	55.9	1.58	13.0
406	R.....	11.5	16.6	12.2	37.8	2.25	20.7
407	RL.....	8.4	17.6	24.7	64.2	2.42	31.7
408	RLP.....	11.3	23.4	28.9	61.1	2.08	44.2
409	RLPK.....	9.3	21.2	28.4	70.5	2.00	38.7
410	0.....	(1.70)	24.8	21.6	59.2	(2.27)	12.2
411	CvM.....	(1.54)	24.2	24.5	66.7	(2.21)	22.2
412	CvML.....	(1.59)	21.8	21.9	56.9	(2.66)	26.6
413	CvMLP.....	(1.64)	25.3	23.3	68.1	(2.51)	36.5
414	CvMP.....	(1.59)	14.2	19.4	54.1	(2.14)	35.2
415	0.....	(1.58)	20.1	17.0	63.3	(1.82)	13.5
416	0.....	(1.44)	15.7	18.1	55.6	(1.54)	12.6
			Alfalfa ⁴	Alfalfa ⁴	Alfalfa ⁴	Alfalfa ⁴	Alfalfa ⁴
501	0.....	....	....	....	(1.88)	....	(.16)
502	M.....	....	....	....	(1.59)	....	(.60)
503	ML.....	....	....	....	(3.46)	....	(2.55)
504	MLP.....	....	....	....	(3.73)	....	(2.62)
505	0.....	....	....	....	(1.87)	....	(.38)
506	R.....	....	....	....	(1.92)	....	(.51)
507	RL.....	....	....	....	(3.41)	....	(2.68)
508	RLP.....	....	....	....	(3.89)	....	(3.39)
509	RLPK.....	....	....	....	(4.10)	....	(3.45)
510	0.....	....	....	....	(2.50)	....	(.41)
511	CvM.....	....	....	....	(2.74)	....	(.35)
512	CvML.....	....	....	....	(3.47)	....	(2.46)
513	CvMLP.....	....	....	....	(3.70)	....	(2.99)
514	CvMP.....	....	....	....	(2.63)	....	(.04)
515	0.....	....	....	....	(1.69)	....	(.00)
516	0.....	....	....	....	(1.93)	....	(.00)

¹No soil treatment; oat yields not taken. ³No manure. ⁴No cover crop; no manure or residues on Plots 2 to 9, but 15 tons per acre of manure was applied to Plots 11 to 14 in 1912. Alfalfa winter-killed in 1913, 1914, and 1916.

TABLE 52.—PANA FIELD: GENERAL SUMMARY, FULLY TREATED PLOTS

Serial plot No.	Soil treatment applied	Average annual yields—bushels or (tons) per acre			
		Corn 5 crops	Oats 4 crops	Wheat 4 crops ¹	Clover 4 crops ¹
1	O.....	26.8	47.2	23.1	(1.65)
2	M.....	27.4	47.1	23.8	(1.92)
3	ML.....	28.8	55.2	29.0	(2.24)
4	MLP.....	28.3	51.7	29.6	(2.17)
5	O.....	22.6	50.6	22.4	1.04
6	R.....	27.3	47.1	26.1	1.35
7	RL.....	33.6	55.9	30.0	1.42
8	RLP.....	34.7	55.7	33.0	1.48
9	RLPK.....	36.5	58.5	33.6	1.52
10	O.....	28.7	52.5	24.1	(2.30)
11	CvM.....	28.3	58.2	28.8	(2.29)
12	CvML.....	30.6	53.4	27.7	(2.39)
13	CvMLP.....	31.4	58.9	27.1	(2.47)
14	CvMP.....	26.8	56.5	30.4	(2.37)
15	O.....	29.0	54.2	23.2	(2.14)
16	O.....	29.0	50.0	25.2	(4.04)

GENERAL NOTES.—The rotation practiced is that of wheat with legume cover crops on the residue plots, corn, oats, and clover. Alfalfa is grown on a fifth field for five years after which it is rotated with the other crops. The soil treatment is standard, as described in the introduction. The soil is black silt loam on clay on Series 100 and 200 and most of 300, and brown-gray silt loam on tight clay on Series 400 and 500.

¹No manure on 1914 wheat or clover, nor on 1915 wheat.

TABLE 53.—RALEIGH FIELD: CROP YIELDS IN SOIL EXPERIMENTS
YELLOW-GRAY SILT LOAM, TIMBER SOIL; LOWER ILLINOISAN GLACIATION

Plot No.	Soil treatment applied	1910 ¹	1911	1912	1913	1914	1915	1916	1917
		Wheat	Corn	Oats	Clover ³	Wheat	Corn	Oats	Soy-beans
Bushels or (tons) per acre									
101	O.....	9.5	28.0	11.9	(.22)	11.8	21.4	10.8	(.76)
102	M.....	6.9	41.0	15.2	(.23)	10.9	35.1	11.2	(.94)
103	ML.....	9.8	45.8	23.4	(.72)	27.5	57.2	12.0	(1.25)
104	MLP....	11.6	46.7	22.7	(.68)	26.8	52.3	14.7	(1.57)
105	O.....	7.3	24.9	14.1	.02	9.4	21.8	10.9	3.5
106	R.....	9.0	24.4	12.8	.02	9.2	24.4	11.4	5.7
107	RL.....	11.0	36.8	20.9	.08	25.1	43.5	10.6	10.4
108	RLP....	10.7	31.1	23.0	.01	27.2	42.0	14.7	12.9
109	RLPK...	12.7	39.5	25.8	.03	30.0	47.2	16.7	9.4
110	O.....	5.7	17.8	8.1	.01	7.2	22.3	9.2	(.67)
		Cow-peas	Wheat ²	Corn	Oats	Soy-beans	Wheat ³	Corn	Oats
201	O.....	(.86)	12.1	20.5	.6	(.28)	...	22.9	17.5
202	M.....	(.75)	12.7	36.5	2.0	(.30)	...	34.9	23.3
203	ML.....	(1.38)	17.5	55.1	3.1	(.26)	...	45.0	36.1
204	MLP....	(1.35)	19.0	53.9	3.0	(.23)	...	43.2	36.7
205	O.....	(.71)	9.5	20.4	1.7	(.27)	...	23.6	20.3
206	R.....	...	12.3	29.9	2.0	2.5	...	24.7	25.9
207	RL.....	...	19.9	45.2	4.4	2.5	...	40.1	42.0
208	RLP....	...	22.7	55.1	5.2	2.7	...	45.6	44.8
209	RLPK...	...	22.8	56.5	7.2	1.8	...	46.8	47.7
210	O.....	(1.09)	14.7	25.2	2.7	.7	...	30.0	30.2
		Oats	Clover ²	Wheat ²	Corn	Oats	Soy-beans	Wheat	Corn
301	O.....	18.1	(.44)	3.4	5.7	2.5	1.1	.8	24.4
302	M.....	17.3	(.43)	2.3	12.9	5.0	(1.81)	1.8	44.7
303	ML.....	26.8	(.61)	7.1	17.2	8.1	(2.16)	7.8	57.5
304	MLP....	26.0	(.68)	7.8	17.1	7.8	(2.30)	9.8	58.9
305	O.....	15.0	(.23)	2.0	4.5	2.0	1.0	.2	25.7
306	R.....	20.9	...	2.8	9.4	4.1	.8	.7	19.9
307	RL.....	25.1	...	7.4	17.5	9.5	3.4	6.7	45.1
308	RLP....	25.1	...	9.9	17.9	11.2	3.9	7.7	41.1
309	RLPK...	29.3	...	14.1	15.9	10.3	3.9	6.6	63.4
310	O.....	22.9	...	4.7	7.4	5.0	.4	1.8	35.1
		Corn	Oats ²	Cow-peas ²	Wheat ²	Corn	Oats	Clover	Wheat
401	O.....	24.1	25.6	(1.44)	6.2	7.6	9.7	(.56)	6.3
402	M.....	18.1	19.2	(1.05)	4.2	13.2	8.9	(.89)	7.8
403	ML.....	40.1	38.0	(2.79)	20.7	16.3	23.6	(1.44)	41.2
404	MLP....	37.4	35.5	(2.56)	23.8	14.1	24.7	(1.98)	39.2
405	O.....	24.9	18.4	(.93)	6.4	8.5	9.8	(⁴)	11.2
406	R.....	31.1	24.1	...	8.5	10.7	12.8	(⁴)	15.2
407	RL.....	42.8	38.6	...	29.8	14.4	23.1	(⁴)	37.2
408	RLP....	44.5	35.3	...	32.9	16.4	22.5	(⁴)	40.5
409	RLPK...	43.0	32.8	...	29.8	16.4	20.8	(⁴)	46.4
410	O.....	26.8	25.0	...	4.7	4.6	7.5	(.83)	5.3

¹No manure or residues. ²No manure. ³Crop destroyed by hailstorm. ⁴Seed lost before recleaning.

TABLE 54.—RALEIGH FIELD: GENERAL SUMMARY, FULLY TREATED PLOTS

Serial plot No.	Soil treatment applied	Average annual yields—bushels or (tons) per acre			
		Corn 7 crops	Oats 6 crops	Wheat 4 crops	Clover 2 crops
1	0.....	18.6	8.8	4.7	(.39)
2	M.....	31.2	10.9	5.1	(.56)
3	ML.....	42.0	17.7	19.1	(1.08)
4	MLP.....	40.9	18.3	19.0	(1.33)
5	0.....	18.5	9.8	5.2	.02 ¹
6	R.....	20.5	11.5	6.3	.02 ¹
7	RL.....	34.7	18.4	17.2	.08 ¹
8	RLP.....	35.6	20.2	18.9	.01 ¹
9	RLPK.....	40.8	21.4	20.8	.03 ¹
10	0.....	20.3	10.4	3.7	(.42)

NOTE.—The crop rotation and soil treatment are standard, as described in the introduction.

¹One crop only.

TABLE 55.—ROCKFORD FIELD: CROP YIELDS IN SOIL EXPERIMENTS
BROWN SILT LOAM PRAIRIE; LOWAN GLACIATION

Plot No.	Soil treatment applied	Bushels or (tons) per acre													
		1904 Corn ¹	1905 Corn ²	1906 Oats ³	1907 Clover ³	1908 Corn	1909 Corn	1910 Oats	1911 Soy-beans	1912 Corn	1913 Corn	1914 Oats	1915 Clover	1916 Corn	1917 Corn
101	L.....	64.7	65.1	53.7	(1.95)	63.4	47.0	67.5	17.3	49.4	41.0	52.8	(3.18)	42.8	24.6
102	RL.....	60.0	61.7	56.6	(1.95)	59.6	53.0	68.1	19.3	52.2	46.8	60.0	.33	52.0	44.4
103	ML.....	72.2	60.5	51.9	(1.94)	72.8	59.4	72.5	17.2	78.0	48.8	57.8	(3.69)	65.8	50.6
104	MLCv.....	67.5	61.9	51.6	(1.96)	70.0	58.4	73.8	16.8	78.0	46.2	47.5	(3.78)	65.6	51.0
105	L.....	65.6	63.9	48.7	(1.86)	60.6	52.0	67.5	20.2	59.4	36.8	40.6	(3.00)	43.4	21.2
106	LP.....	69.6	69.3	58.1	(2.36)	79.4	58.8	78.1	22.0	58.8	37.6	60.3	(3.97)	45.8	27.0
107	RLP.....	73.3	62.4	51.9	(2.36)	77.6	66.4	73.1	26.5	60.6	45.0	58.1	.33	60.6	50.4
108	MLP.....	70.6	69.2	53.7	(2.35)	86.2	64.6	80.6	22.7	78.0	49.6	58.1	(4.27)	69.4	57.6
109	CvMLP.....	62.8	63.7	50.6	(2.38)	84.0	65.4	80.0	23.3	75.2	49.4	55.6	(4.46)	68.6	51.8
110	L.....	65.6	58.4	47.8	(1.80)	63.2	51.6	72.2	20.7	40.4	37.2	52.5	(3.27)	42.0	22.6
111	LPK.....	69.5	65.9	49.4	(2.51)	81.2	68.8	74.1	24.2	68.4	47.2	56.2	(4.27)	62.0	49.2
112	RLPK.....	68.0	62.9	50.3	(2.46)	76.2	71.4	74.7	25.0	63.2	52.2	60.9	.17	57.8	78.2
113	MLPK.....	66.1	65.7	47.8	(2.45)	85.4	68.0	77.9	23.2	70.2	48.6	54.4	(4.46)	63.0	59.6
114	CvMLPK.....	65.4	62.8	53.7	(2.55)	82.2	69.2	84.4	22.2	70.8	47.8	55.6	(4.68)	63.8	50.8
115	L.....	65.5	61.3	45.0	(2.06)	65.2	51.8	68.4	21.3	45.6	37.4	47.5	.33	53.8	25.8
116	R.....	65.5	64.3	49.4	(2.25)	57.2	65.2	78.4	24.2	51.0	46.0	53.1	.33	56.0	42.2
117	RP.....	67.8	61.9	53.1	(2.35)	75.0	65.8	75.3	23.0	55.4	50.6	64.4	.17	68.6	51.8
118	RPK.....	65.9	66.0	52.8	(2.43)	79.0	72.4	83.4	21.7	61.4	48.6	60.9	.17	49.0	54.2
119	RLNPK.....	71.3	72.1	78.1	(2.35)	80.4	72.8	89.7	23.7	71.8	49.2	56.9	.33	58.0	70.8
120	0.....	65.4	62.4	47.2	(1.26)	63.6	45.0	72.5	18.8	37.8	37.8	47.8	(2.00)	44.4	22.4

TABLE 55.—ROCKFORD FIELD, Continued

Plot No.	Soil treatment applied	Bushels or (tons) per acre													
		1904 Corn ¹	1905 Oats ²	1906 Clover ³	1907 Corn	1908 Corn	1909 Oats	1910 Clover	1911 Corn	1912 Corn	1913 Oats	1914 Clover	1915 Corn	1916 Corn	1917 Oats
201	L.....	62.9	82.5	(1.09)	67.8	55.2	85.3	(1.60)	64.2	61.0	43.8	(4.27)	28.2	42.6	81.6
202	RL.....	61.8	78.4	(.84)	67.3	51.2	90.3	..	68.8	65.8	49.1	.33	36.2	48.0	76.9
203	ML.....	69.2	75.3	(.82)	78.4	66.2	88.8	(1.64)	81.6	69.2	49.1	(4.36)	50.6	53.4	88.4
204	CvML.....	69.4	77.5	(1.07)	75.5	64.8	90.9	(1.75)	80.0	68.6	47.8	(2.59)	45.0	51.2	90.0
205	L.....	65.3	77.5	(1.13)	69.6	55.8	83.4	(1.80)	72.4	54.4	41.9	(4.11)	28.0	39.2	86.9
206	LP.....	62.4	78.4	(1.40)	72.9	61.6	95.6	(2.13)	74.0	62.6	51.2	(4.18)	32.4	35.6	99.1
207	RLP.....	61.2	70.9	(1.25)	71.9	63.6	84.7	..	78.6	71.6	52.8	.17	46.2	49.8	87.5
208	MLP.....	69.6	82.2	(1.35)	81.2	73.6	95.6	(2.08)	81.4	67.3	50.6	(4.20)	53.4	55.4	93.1
209	CvMLP.....	68.0	80.0	(1.35)	80.4	69.6	90.3	(2.11)	79.8	70.4	50.6	(2.65)	50.2	51.4	100.3
210	L.....	65.2	80.3	(1.26)	71.5	51.8	86.3	(1.51)	73.4	49.6	42.2	(4.03)	22.0	36.8	82.2
211	LPK.....	63.8	82.2	(1.42)	81.5	69.6	85.3	(2.17)	81.8	69.0	49.7	(4.59)	42.4	54.0	91.9
212	RLPK.....	64.7	77.2	(1.33)	78.7	68.4	84.7	..	79.8	75.0	50.0	.17	44.8	53.6	82.2
213	MLPK.....	66.8	73.1	(1.26)	83.3	80.0	80.3	(2.26)	84.2	73.6	50.0	(4.55)	51.4	58.8	78.1
214	CvMLPK.....	70.8	75.9	(1.44)	84.7	79.0	90.9	(2.37)	86.0	71.2	50.3	(2.64)	53.4	52.4	95.6
215	L.....	72.5	78.1	(1.39)	76.6	58.8	85.8	(1.93)	72.0	51.8	43.8	.17	35.2	44.6	82.2
216	R.....	66.1	75.9	(1.34)	69.4	59.0	84.4	..	78.4	68.4	47.5	.50	33.6	46.4	80.3
217	RP.....	65.2	73.4	(1.33)	74.9	67.2	81.9	..	78.0	67.4	52.5	.83	38.0	46.6	89.1
218	RPK.....	64.2	77.5	(1.34)	77.0	72.8	90.6	..	76.2	71.0	54.7	.50	40.0	53.4	83.8
219	RLNPK.....	70.1	83.4	(1.62)	76.1	70.2	86.6	(1.17)	78.4	75.2	59.4	.50	46.2	55.2	80.9
220	0.....	62.4	79.4	(.99)	63.5	53.0	83.4	(1.17)	68.8	49.2	49.7	(3.12)	4.0	32.8	93.8

GENERAL NOTES.—The rotation consists of corn, corn, oats and clover. Soybeans are seeded in the corn as a cover crop. The soil treatment applied is standard as described in the introduction, with the exception that limestone was first applied in 1906 at the rate of 1300 pounds per acre, no further applications being made until 1913, when they became standard. Beginning with 1914, the cover crop was omitted on Plots 4, 9, and 14 and the second cutting of clover was harvested for seed and 1 bushel of seed counted equivalent to 1 ton of hay in yields reported. The seed yields were .17 bushel per acre from each of these plots in 1914 and from Plot 9 in 1917; and, in 1916, 1 bushel from Plot 4, 1.33 from Plot 9, and 1.67 from Plot 14.

¹No lime, residues, manure, or cover crop. ²No lime or manure. ³No manure.

TABLE 55.—ROCKFORD FIELD, Continued

Plot No.	Soil treatment applied	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917
		Oats ¹	Soy-beans ¹	Corn	Corn	Oats	Clover	Corn	Corn	Corn	Oats	Clover	Corn	Corn	Oats	Clover
		Bushels or (tons) per acre													
301	L.....	59.7	(1.99)	84.4	49.4	40.3	(1.35)	55.0	52.0	57.8	(2.95)	69.2	27.6	83.4	(1.28)
302	RL.....	60.8	(2.04)	82.0	51.8	40.3	1.66	57.6	66.0	75.0	2.33	81.6	40.2	81.9	.50
303	ML.....	60.6	(2.07)	93.7	55.6	41.6	(1.76)	67.6	64.8	67.5	(3.48)	92.8	48.2	92.5	(2.18)
304	CvML.....	58.1	(1.81)	83.5	52.9	38.1	(1.98)	69.4	60.0	76.9	(3.53)	92.0	48.4	93.4	(1.80)
305	L.....	55.6	(1.62)	77.5	44.7	33.1	(1.46)	56.0	47.2	61.9	(3.12)	73.6	24.2	78.8	(.87)
306	LP.....	53.8	(1.88)	77.4	45.7	33.8	(1.59)	59.8	56.2	72.8	(3.60)	81.2	26.4	94.1	(1.20)
307	RLP.....	57.0	(1.88)	78.4	48.4	35.0	.48	63.0	69.6	71.3	1.83	88.4	38.0	84.4	.33
308	MLP.....	55.8	(1.87)	88.6	52.5	35.0	(2.07)	67.0	68.0	77.8	(3.91)	95.2	49.6	90.3	(2.60)
309	CvMLP.....	58.9	(1.87)	85.6	54.3	35.3	(2.07)	68.0	66.4	70.9	(3.87)	93.6	49.0	91.6	(2.22)
310	L.....	60.3	(1.66)	74.9	42.9	33.1	(1.40)	54.4	48.4	60.9	(2.98)	73.4	21.2	79.4	(.76)
311	LPK.....	58.8	(1.84)	84.9	46.4	35.9	(2.09)	66.8	69.8	69.7	(3.97)	94.4	39.4	79.7	(2.37)
312	RLPK.....	58.3	(1.96)	81.0	49.3	36.3	.50	69.0	72.4	75.0	1.83	99.6	44.6	82.8	.33
313	MLPK.....	60.3	(1.97)	84.9	50.1	32.2	(2.37)	67.0	74.6	72.2	(4.03)	88.6	48.2	89.4	(2.87)
314	CvMLPK.....	61.2	(2.09)	85.2	53.2	33.8	(2.52)	69.0	70.2	74.4	(4.20)	88.0	47.4	89.7	(2.70)
315	L.....	58.6	(1.96)	81.9	46.7	31.6	(1.70)	62.4	53.6	65.0	2.83	72.4	30.4	80.0	0.0 ⁴
316	R.....	59.6	(2.00)	82.0	53.3	33.1	1.24	65.0	68.0	75.0	2.33	87.4	40.4	85.6	.33
317	RP.....	56.3	(2.26)	87.1	58.3	37.8	1.83	66.6	68.2	73.4	2.17	89.6	40.2	81.9	.33
318	RPK.....	57.5	(2.32)	93.5	60.6	36.9	2.04	69.4	68.4	77.2	1.83	89.4	43.4	83.8	0.0
319	RLNPK.....	73.4	(2.62)	96.6	62.5	44.7	1.60	67.6	72.0	74.1	2.00	92.0	49.0	61.0	0.0
320	0.....	54.1	(1.87)	81.4	43.9	40.9	(2.39)	59.2	51.4	68.4	(3.68)	71.2	23.4	72.8	0.0 ⁴

TABLE 55.—ROCKFORD FIELD, Concluded

Plot No.	Soil treatment applied	Bushels or (tons) per acre													
		1904 Timothy ¹	1905 Corn ¹	1906 Corn ²	1907 Oats ³	1908 Clover ³	1909 Corn	1910 Corn	1911 Oats	1912 Soy-beans	1913 Corn	1914 Corn	1915 Oats	1916 Clover	1917 Corn
401	L.....	(1.65)	67.3	60.8	34.4	(2.06)	60.6	38.6	60.0	9.3	36.2	47.0	70.0	(1.77)	29.8
402	RL.....	(1.66)	64.0	54.6	33.8	(2.10)	64.2	49.6	60.6	10.5	44.6	72.4	73.4	.33	48.8
403	ML.....	(1.65)	69.1	63.6	33.8	(2.22)	81.6	46.0	69.4	10.5	51.4	72.0	86.2	(2.30)	59.2
404	CvML.....	(1.59)	60.8	61.0	33.8	(2.13)	78.0	46.6	58.8	10.7	49.2	72.6	86.6	(2.70)	60.4
405	L.....	(1.59)	70.3	65.2	33.1	(2.09)	66.0	49.0	60.6	9.0	41.2	47.8	73.8	(2.13)	29.6
406	LP.....	(1.44)	70.8	67.9	36.6	(2.19)	69.6	33.6	58.8	11.3	40.2	53.2	87.8	(2.44)	40.6
407	RLP.....	(1.52)	70.7	71.0	39.4	(2.27)	73.4	41.2	64.1	10.7	45.8	80.2	65.6	.50	51.4
408	MLP.....	(1.47)	70.7	71.4	34.7	(1.95)	86.0	48.4	60.3	12.7	52.0	86.4	88.4	(2.80)	65.2
409	CvMLP.....	(1.45)	66.4	72.1	38.8	(2.15)	83.8	41.2	69.4	14.2	45.6	87.4	90.9	(3.08)	68.6
410	L.....	1.47	67.6	66.0	33.1	(2.13)	68.2	38.2	60.3	11.2	37.4	55.4	71.9	(2.51)	32.4
411	LPK.....	(1.57)	68.9	73.8	38.4	(2.23)	85.2	43.4	69.7	12.2	51.0	82.8	78.8	(2.99)	54.8
412	RLPK.....	(1.53)	73.1	67.0	40.6	(2.20)	85.2	49.8	70.9	9.5	45.6	85.4	78.4	1.17	60.4
413	MLPK.....	1.43	68.3	65.4	37.5	(2.21)	86.4	63.8	71.3	11.7	47.2	89.4	85.0	(3.66)	57.0
414	CvMLPK.....	(1.41)	69.9	67.9	38.8	(2.21)	87.2	51.8	72.8	10.3	56.4	90.8	82.8	(3.87)	62.6
415	L.....	(1.62)	68.8	66.3	34.1	(2.18)	69.2	45.0	61.6	11.0	41.2	58.2	74.1	.33 ⁴	35.4
416	R.....	(1.65)	66.9	64.1	34.7	(2.24)	68.6	50.6	70.6	12.7	43.0	77.4	73.4	1.00	46.2
417	RP.....	(1.62)	65.3	71.0	40.3	(2.26)	75.2	49.0	70.3	11.0	47.6	73.6	78.1	1.33	53.0
418	RPK.....	(1.45)	63.2	66.3	33.8	(2.04)	83.6	49.8	71.3	8.2	47.4	83.2	73.4	.67	52.2
419	RLNPK.....	(2.46)	69.3	83.0	43.8	(2.07)	83.6	55.2	66.9	7.3	49.0	92.8	82.2	.50	55.8
420	0.....	(1.40)	54.7	47.6	31.3	(2.07)	59.0	35.6	66.9	13.0	39.4	52.4	67.2	(2.00) ⁴	25.8

¹No lime, residues, manure or cover crop. ²No lime or manure. ³No manure. ⁴Estimated and yields of Plots 15 and 20 exchanged.

TABLE 56.—ROCKFORD FIELD: GENERAL SUMMARY, FULLY TREATED PLOTS

Serial plot No.	Soil treatment applied	Average annual yields—bushels or (tons) per acre			
		Corn 23 crops	Oats 10 crops	Clover 7 crops	Soybeans 2 crops
1	L.....	49.4	64.2	(2.34)	13.3
2	RL.....	56.7	67.6	.78	14.9
3	ML.....	65.5	71.4	(2.77)	13.9
4	CvML.....	63.8	70.4	(2.59)	13.8
5	L.....	49.9	62.9	(2.36)	14.6
6	LP.....	53.5	73.2	(2.73)	16.7
7	RLP.....	61.7	67.7	.52	18.6
8	MLP.....	68.5	73.0	(3.13)	17.7
9	CvMLP.....	66.9	73.5	(2.92)	18.8
10	L.....	48.2	64.1	(2.35)	16.0
11	LPK.....	65.0	69.1	(3.21)	18.2
12	RLPK.....	67.0	69.6	.60	17.2
13	MLPK.....	68.8	69.1	(3.60)	17.4
14	CvMLPK.....	68.4	73.0	(3.28)	16.2
15	L.....	52.8	64.0	1.32	16.1
16	R.....	58.9	68.1	.82	18.4
17	RP.....	62.9	70.5	.95	17.0
18	RPK.....	65.0	71.6	.74	15.0
19	RLNPK.....	68.7	70.2	.70	15.5
20	0.....	46.3	66.3	(2.05)	15.9

TABLE 57.—SIDELL FIELD: CROP YIELDS IN SOIL EXPERIMENTS
BROWN SILT LOAM PRAIRIE; EARLY WISCONSIN GLACIATION

Plot No.	Soil treatment applied	1912 ¹	1913	1914	1915	1916	1917
		Oats	Clover ²	Wheat ²	Corn	Oats	Soy-beans
Bushels or (tons) per acre							
101	0.....	30.0	(1.11)	34.0	48.1	56.9	(1.74)
102	M.....	32.0	(1.14)	34.0	54.8	63.9	(1.88)
103	ML.....	42.7	(1.30)	31.2	58.5	61.4	(1.88)
104	MLP.....	34.1	(1.04)	36.9	71.2	66.1	(1.82)
105	0.....	47.2	1.00	33.2	47.5	50.2	(1.23)
106	R.....	50.0	.83	34.8	47.6	51.1	....
107	RL.....	46.4	.92	34.9	52.1	54.2	....
108	RLP.....	44.8	.83	38.8	52.5	56.9	....
109	RLPK.....	38.4	1.00	41.2	51.4	57.2	....
110	0.....	49.8	(1.31)	30.5	48.0	54.5	(1.44)
		Corn	Oats ²	Soy-beans ²	Wheat ²	Corn	Oats
201	0.....	48.4	3.4	12.2	10.8	28.9	80.6
202	M.....	39.7	2.7	(1.58)	7.2	31.6	80.3
203	ML.....	39.5	2.7	(1.67)	6.2	31.9	80.5
204	MLP.....	40.7	3.0	(1.57)	7.2	33.1	84.5
205	0.....	38.7	2.3	11.0	7.5	25.9	74.1
206	R.....	42.7	1.9	11.4	6.7	34.7	75.2
207	RL.....	24.8	2.7	10.0	6.2	33.6	73.6
208	RLP.....	42.6	2.3	9.2	6.9	34.8	76.9
209	RLPK.....	42.7	3.0	8.6	6.7	35.3	73.0
210	0.....	43.2	3.1	9.2	5.5	24.9	65.2
		Oats	Corn	Oats	Soy-beans	Wheat	Corn
301	0.....	52.5	40.9	46.2	(1.42)	24.6	65.1
302	M.....	53.7	34.6	44.5	(1.20)	17.1	66.6
303	ML.....	52.0	33.3	42.5	(1.30)	10.4	63.3
304	MLP.....	53.6	35.5	44.5	(1.22)	14.9	59.8
305	0.....	55.0	28.8	37.7	17.4	9.0	47.1
306	R.....	53.6	31.9	38.3	15.6	7.0	49.4
307	RL.....	51.2	33.4	36.1	15.0	4.3	53.0
308	RLP.....	48.8	32.4	35.2	16.7	9.0	68.0
309	RLPK.....	50.0	31.8	43.0	17.8	9.9	67.8
310	0.....	47.2	28.4	40.8	(1.15) ³	8.8	43.1
		Soy-beans	Wheat ²	Corn	Oats	Clover	Wheat
401	0.....	(2.42)	38.1	47.6	63.6	(2.75)	34.2
402	M.....	(2.26)	34.9	45.7	69.2	(2.70)	42.2
403	ML.....	(2.14)	37.5	43.8	73.6	(2.69)	34.8
404	MLP.....	(1.77)	34.2	46.4	74.2	(2.43)	37.2
405	0.....	12.5	28.8	37.5	68.1	2.67	34.8
406	R.....	12.0	27.0	41.0	62.0	2.58	33.8
407	RL.....	12.9	24.9	42.6	61.6	2.75	29.6
408	RLP.....	10.8	24.8	41.6	63.4	3.08	36.2
409	RLPK.....	13.3	22.4	43.7	62.2	2.92	32.9
410	0.....	(1.54)	20.1	33.9	67.5	(2.23)	28.2

¹No soil treatment. ²No manure. ³Estimated.

TABLE 57.—SIDEELL FIELD, *Concluded*

Plot No.	Soil treatment applied	1912	1913	1914	1915	1916	1917
			Alfalfa ⁴	Alfalfa ⁴	Alfalfa ⁴	Alfalfa ⁴	Alfalfa ⁴
Bushels or (tons) per acre							
501	0.....	....	(2.92)	(3.78)	(4.06)	(2.50)	(4.20)
502	M.....	....	(3.20)	(4.62)	(4.34)	(2.73)	(4.28)
503	ML.....	....	(3.78)	(4.20)	(4.17)	(2.68)	(3.80)
504	MLP.....	....	(4.20)	(4.49)	(4.13)	(3.24)	(4.55)
505	0.....	....	(1.44)	(3.23)	(3.67)	(2.55)	(3.47)
506	R.....	....	(1.17)	(3.14)	(3.65)	(2.73)	(3.29)
507	RL.....	....	(1.83)	(3.42)	(3.36)	(2.37)	(3.07)
508	RLP.....	....	(3.06)	(3.85)	(4.07)	(2.68)	(4.00)
509	RLPK.....	....	(3.50)	(4.49)	(4.79)	(2.83)	(4.16)
510	0.....	....	(1.22)	(3.51)	(3.84)	(2.33)	(2.68)

⁴No residues.

TABLE 58.—SIDEELL FIELD: GENERAL SUMMARY, FULLY TREATED PLOTS

Serial plot No.	Soil treatment applied	Average annual yields—bushels or (tons) per acre				
		Corn	Oats	Wheat	Clover	Soybeans
		5 crops	4 crops	4 crops ¹	1 crop	3 crops
1	0.....	46.1	61.8	25.9	(2.75)	(1.64)
2	M.....	46.7	64.5	25.1	(2.70)	(1.55)
3	ML.....	46.2	64.5	20.7	(2.69)	(1.62)
4	MLP.....	49.2	67.3	24.0	(2.43)	(1.54)
5	0.....	37.4	57.5	21.1	2.67	13.6
6	R.....	40.9	56.7	20.6	2.58	9.0
7	RL.....	43.0	56.4	18.8	2.75	8.3
8	RLP.....	45.9	58.1	22.7	3.08	8.6
9	RLPK.....	46.0	58.9	22.7	2.92	8.8
10	0.....	35.7	57.0	18.2	(2.23)	(1.31)

GENERAL NOTES.—The crop rotation^a and soil treatment are standard, as described in the introduction, with the exception that alfalfa is grown on a fifth field, which after producing alfalfa for five years will be thrown into the regular rotation. (The natural productiveness of this field decreases from Plot 1 to Plot 10.)

^aNo manure on 1914 and 1915 wheat.

TABLE 59.—SPARTA FIELD, MAIN ROTATION: CROP YIELDS IN
SOIL EXPERIMENTS
LIGHT-GRAY SILT LOAM ON TIGHT CLAY, TIMBER SOIL; LOWER ILLINOISAN
GLACIATION

Plot No.	Soil treatment applied	1916	1917
		Corn ¹	Soybeans ³
		Bushels or (tons) per acre	
101	0.....	14.8	(.99)
102	M.....	18.2	(1.05)
103	ML.....	16.8	(1.33)
104	MLP.....	19.8	(1.36)
105	0.....	13.8	5.8
106	R.....	16.6	9.2
107	RL.....	21.2	9.8
108	RLP.....	20.0	9.5
109	RLPK.....	18.6	11.3
110	0.....	17.4	(.99)
		Soybeans ¹	Corn
201	0.....	(1.37)	28.0
202	M.....	(1.16)	31.4
203	ML.....	(1.41)	49.4
204	MLP.....	(1.60)	49.4
205	0.....	7.7	28.2
206	R.....	7.2	36.0
207	RL.....	10.3	35.0
208	RLP.....	8.8	39.0
209	RLPK.....	9.7	47.0
210	0.....	(.96)	28.0
		Wheat ²	Soybeans ³
301	0.....	6.3	(.76)
302	M.....	6.7	(.85)
303	ML.....	9.0	(.70)
304	MLP.....	8.2	(.63)
305	0.....	1.8	3.3
306	R.....	3.7	4.7
307	RL.....	8.8	8.8
308	RLP.....	9.2	9.7
309	RLPK.....	11.0	8.3
310	0.....	5.0	(.66)
		Soybeans ¹	Wheat ³
401	0.....	(.48)	10.5
402	M.....	(.67)	15.0
403	ML.....	(.73)	24.2
404	MLP.....	(.80)	27.2
405	0.....	5.2	18.8
406	R.....	6.3	17.2
407	RL.....	8.0	23.5
408	RLP.....	6.0	25.3
409	RLPK.....	6.5	23.5
410	0.....	(.61)	16.2

¹No residues, manure, or potassium. ²No residues or manure. ³No manure.

TABLE 59a.—SPARTA FIELD, MINOR ROTATION: CROP YIELDS IN SOIL
EXPERIMENTS
YELLOW-GRAY SILT LOAM, TIMBER SOIL; LOWER ILLINOISAN GLACIATION

Plot No.	Soil treatment applied	1916	1917
		Soybeans ¹	Potatoes
		Bushels or (tons) per acre	
501	0.....	(1.28)	25.5
502	M.....	(1.20)	35.0
503	ML.....	(1.28)	34.0
504	MLP.....	(1.22)	33.5
505	MLPK.....	(1.20)	23.3
506	0.....	(1.07)	12.2
			Alfalfa ²
601	0.....	....	(.49)
602	M.....	....	(.58)
603	ML.....	....	(3.23)
604	MLP.....	....	(3.25)
605	MLPK.....	....	(1.72)
606	0.....	....	(.00)
		Wheat ¹	Soybean hay ²
701	0.....	5.7	(1.51)
702	M.....	5.3	(1.52)
703	ML.....	5.2	(1.89)
704	MLP.....	4.0	(1.80)
705	MLPK.....	3.0	(1.89)
706	0.....	.3	(.91)
		Potatoes ¹	Wheat ²
801	0.....	30.3	24.8
802	M.....	25.5	20.5
803	ML.....	30.5	22.0
804	MLP.....	17.2	27.2
805	MLPK.....	17.2	30.2
806	0.....	32.0	22.3

GENERAL NOTES.—The major rotation consists of corn, soybeans, wheat, and alsike clover. The minor rotation is potatoes, wheat, and alsike clover, with alfalfa on a fourth field, which remains down while the three crops go thru two rotations. The soil treatment is standard, as described in the introduction.

¹Lime and potassium only. ²No manure.

TABLE 60.—SPRING VALLEY FIELD: CROP YIELDS IN SOIL EXPERIMENTS
BROWN SILT LOAM, FORMERLY TIMBERED; EARLY WISCONSIN GLACIATION

Plot No.	Soil treatment applied	1915 ¹	1916	1917
		Corn	Oats ²	Clover ²
Bushels or (tons) per acre				
101	0	34.8	35.9	(2.26)
102	M	27.8	32.5	(1.83)
103	ML	26.4	29.7	(2.36)
104	MLP	34.4	35.9	(2.40)
105	0	35.0	26.9	.03
106	R	30.4	31.2	.05
107	RL	31.2	34.4	.03
108	RLP	30.2	38.1	.05
109	RLPK	33.0	36.9	.03
110	0	35.0	35.9	(1.34)
		Wheat	Corn	Oats
201	0	19.0	25.8	56.2
202	M	8.2	13.8	44.1
203	ML	6.3	10.4	39.1
204	MLP	15.5	17.8	49.7
205	0	15.8	14.6	40.9
206	R	15.5	19.8	39.7
207	RL	21.2	30.0	47.8
208	RLP	20.8	26.2	55.6
209	RLPK	18.8	25.0	42.2
210	0	13.5	20.2	42.5
		Soybeans	Wheat ²	Corn
301	0	17.5	26.0	23.6
302	M	(1.36)	17.3	32.4
303	ML	(1.40)	16.3	29.6
304	MLP	(1.54)	21.2	44.0
305	0	16.5	20.7	23.8
306	R	17.2	17.2	46.2
307	RL	17.3	23.8	48.0
308	RLP	17.5	19.2	45.6
309	RLPK	17.0	14.3	50.4
310	0	16.5	16.7	20.0
		Oats	Clover ²	Wheat ²
401	0	41.2	(2.31)	33.5
402	M	38.4	(2.00)	33.0
403	ML	23.1	(1.92)	32.8
404	MLP	34.7	(2.33)	38.2
405	0	33.8	.10	35.0
406	R	28.8	.17	37.3
407	RL	38.1	.12	39.3
408	RLP	32.5	.15	41.8
409	RLPK	38.8	.15	39.0
410	0	31.9	(2.33)	35.0

NOTE.—The crop rotation and soil treatment are standard, as described in the introduction.

¹Lime only. ²No manure.

TABLE 61.—TOLEDO FIELD: CROP YIELDS IN SOIL EXPERIMENTS
GRAY SILT LOAM ON TIGHT CLAY, PRAIRIE; LOWER ILLINOISAN GLACIATION

Plot No.	Soil treatment applied	1913 ¹	1914	1915	1916	1917
		Soybeans	Wheat ²	Corn	Oats	Soybeans
Bushels or (tons) per acre						
101	0.....	(.54)	11.2	33.7	28.4	(1.09)
102	M.....	(.35)	11.4	31.4	27.8	(1.06)
103	ML.....	(.54)	15.1	38.1	38.6	(1.62)
104	MLP.....	(.49)	17.0	41.1	40.3	(1.56)
105	0.....	2.5	8.3	28.7	26.1	4.9
106	R.....	3.7	8.2	28.2	21.9	7.3
107	RL.....	3.6	10.0	29.0	35.8	10.0
108	RLP.....	3.2	12.6	24.6	34.5	12.5
109	RLPK.....	3.5	15.7	38.1	42.0	14.1
110	0.....	(.53)	7.0	22.0	24.1	(.74)
		Oats	Soybeans ²	Wheat ²	Corn	Oats
201	0.....	1.1	(.68) ³	6.2	26.6	5.2
202	M.....	1.2	(.50)	4.7	29.1	5.6
203	ML.....	.9	(.46)	12.0	32.2	25.6
204	MLP.....	.8	(.48)	14.4	29.8	37.8
205	0.....	.5	5.2	2.7	19.4	5.8
206	R.....	.9	5.0	3.0	14.4	17.5
207	RL.....	1.1	7.0	12.0	22.3	29.7
208	RLP.....	1.9	7.4	17.7	21.1	37.0
209	RLPK.....	.6	7.0	25.9	22.8	53.3
210	0.....	1.1	(.40) ³	8.8	17.6	16.1
		Corn	Oats ^a	Soybeans ²	Wheat ²	Corn
301	0.....	3.8	0.0	(.62)	.1	5.6
302	M.....	3.6	.2	(.66)	.1	12.1
303	ML.....	5.1	.8	(.96)	.7	17.2
304	MLP.....	5.4	.6	(1.02)	2.6	18.2
305	0.....	3.0	.2	7.2	.1	6.1
306	R.....	3.7	.2	7.4	.2	6.2
307	RL.....	5.5	.6	13.2	3.2	19.5
308	RLP.....	3.9	.5	12.6	3.8	22.4
309	RLPK.....	4.4	.8	12.3	10.8	25.3
310	0.....	3.6	.3	(.87)	.1	6.6
		Oats	Corn	Oats	Clover	Wheat
401	0.....	.9	24.7	22.0	(.16)	9.8
402	M.....	.9	27.5	21.6	(.37)	12.8
403	ML.....	1.1	30.3	27.2	(.82)	27.5
404	MLP.....	.9	32.5	26.9	(.88)	33.6
405	0.....	.8	25.8	18.9	.08	7.6
406	R.....	.8	27.5	23.6	.25	13.8
407	RL.....	.8	25.1	30.5	.67	30.2
408	RLP.....	.9	27.6	29.4	.14	33.2
409	RLPK.....	.6	28.4	38.6	.19	35.8
410	0.....	.8	25.2	20.3	(.64)	2.5

¹Lime only. ²No manure. ³Estimated.

TABLE 62.—TOLEDO FIELD: GENERAL SUMMARY, FULLY TREATED PLOTS

Serial plot No.	Soil treatment applied	Average annual yields—bushels or (tons) per acre				
		Corn 4 crops	Oats 4 crops ¹	Wheat 4 crops ²	Clover 1 crop	Soybeans 3 crops ³
1	O.....	22.7	13.9	6.8	(.16)	(.80)
2	M.....	25.0	13.8	7.2	(.37)	(.74)
3	ML.....	29.4	23.0	13.8	(.82)	(1.01)
4	MLP.....	30.4	26.4	16.9	(.88)	(1.02)
5	O.....	20.0	12.8	4.7	.08	5.8
6	R.....	19.1	15.8	6.3	.25	6.6
7	RL.....	24.0	24.1	13.9	.67	10.7
8	RLP.....	23.9	25.3	16.8	.14	10.8
9	RLPK.....	28.7	33.7	22.0	.19	11.1
10	O.....	17.9	15.2	4.6	(.64)	(.67)

NOTE.—The crop rotation and soil treatment are standard, as described in the introduction.

¹One crop without manure. ²Three crops without manure. ³Two crops without manure.

TABLE 63.—UNION GROVE FIELD, MAIN ROTATION: CROP YIELDS IN SOIL EXPERIMENTS
BROWN SILT LOAM OVER SAND, PRAIRIE, TERRACE

Plot No.	Soil treatment applied	Bushels or (tons) per acre										1917- Soy- beans
		1907 Corn ¹	1908 Oats ²	1909 Clover ³	1910 Corn ⁴	1911 Corn ⁴	1912 Oats	1913 Clover	1914 Corn	1915 Corn	1916 Barley	
101	L.....	31.7	35.8	(2.49)	30.1	40.9	52.0	(4.00)	40.8	16.9	44.7	(1.55)
102	RL.....	36.4	43.0	..	43.2	58.1	63.6	.75	64.7	32.3	53.9	17.7
103	ML.....	35.1	40.0	(2.79)	43.0	56.8	61.3	(4.38)	67.2	42.7	60.2	(2.41)
104	CvML.....	39.4	49.5	(2.85)	52.7	52.4	60.5	(3.95)	63.8	35.8	55.9	(2.38)
105	L.....	33.9	45.5	(2.85)	29.0	38.6	37.0	(3.64)	46.8	15.3	41.7	(1.50)
106	LP.....	33.8	43.8	(2.83)	30.4	46.4	50.9	(3.77)	43.8	19.9	54.9	(1.30)
107	RLP.....	45.1	52.2	..	39.3	68.3	70.8	1.08	71.5	37.9	62.2	14.8
108	MLP.....	39.4	49.8	(2.70)	45.7	61.3	48.6	(3.38)	74.3	38.7	61.5	(2.20)
109	CvMLP.....	40.4	49.4	(2.85)	41.0	59.8	60.0	(3.88)	72.1	45.6	57.7	(2.30)
110	L.....	36.9	46.9	(2.83)	33.0	48.9	50.8	(4.44)	53.4	18.7	47.7	(1.62)
111	LPK.....	40.9	49.5	(3.37)	44.0	66.3	57.7	(4.60)	74.0	38.2	60.9	(1.60)
112	RLPK.....	54.4	53.9	..	54.8	77.2	69.8	.67	79.6	40.7	64.3	16.8
113	MLPK.....	50.6	53.4	(3.01)	51.8	70.4	54.8	(3.29)	72.0	42.1	56.7	(2.25)
114	CvMLPK.....	52.0	46.7	(2.79)	47.7	68.8	59.2	(3.17)	73.1	36.3	61.9	(2.18)
115	L.....	43.3	43.3	(2.09)	30.0	39.0	46.4	1.17	51.3	16.4	45.0	14.2
116	R.....	42.3	40.3	..	42.0	59.1	59.4	1.50	63.4	26.4	54.5	15.9
117	RP.....	42.9	42.8	..	42.6	60.3	67.2	1.92	70.3	38.2	58.6	12.7
118	RPK.....	47.3	44.1	..	54.2	72.1	69.7	1.58	77.9	42.9	58.8	16.4
119	RLNPK.....	50.6	53.3	..	56.7	74.2	70.5	.83	76.2	41.2	57.6	17.1
120	0.....	33.1	35.2	(2.12)	28.6	35.6	54.1	(2.97)	44.7	14.5	45.5	(1.08)

TABLE 63.—UNION GROVE FIELD, MAIN ROTATION, Concluded

Plot No.	Soil treatment applied	Bushels or (tons) per acre									
		1907 Clover ²	1908 Corn ¹	1909 Corn ³	1910 Oats ³	1911 Soy- beans ³	1912 Corn	1913 Corn	1914 Oats	1915 Clover	1916 Corn
201	L.....	63.6	57.6	68.3	23.1	54.5	35.9	51.6	(3.12)	36.8	33.0
202	RL.....	56.6	61.5	74.2	25.3	73.4	45.1	49.8	1.42	50.4	43.9
203	ML.....	61.2	60.6	67.8	24.1	84.9	51.5	48.3	(3.34)	50.0	50.7
204	CvML.....	56.1	59.9	72.3	25.0	85.5	48.9	45.3	(2.98)	52.1	50.9
205	L.....	58.8	61.6	64.5	23.0	55.7	34.7	47.2	(2.59)	34.9	32.1
206	LP.....	54.4	60.0	65.5	23.8	66.5	34.7	51.7	(3.00)	35.2	38.4
207	RLP.....	55.9	56.1	81.3	25.2	76.4	46.0	59.8	1.25	49.3	48.8
208	MLP.....	57.5	61.6	75.0	24.8	88.0	50.4	45.6	(3.65)	49.0	54.2
209	CvMLP.....	55.9	61.0	80.0	24.9	85.6	51.4	50.2	(3.42)	51.6	54.2
210	L.....	55.1	51.2	57.7	22.8	58.3	30.7	50.3	(2.68)	34.1	33.4
211	LPK.....	55.1	52.2	55.0	23.0	69.9	44.1	50.3	(3.28)	47.1	51.3
212	RLPK.....	56.5	49.1	65.3	23.5	77.7	49.4	61.7	.92	55.1	64.6
213	MLPK.....	51.8	45.9	58.8	22.8	88.0	50.6	55.8	(3.05)	53.5	60.2
214	CvMLPK.....	39.0	41.2	60.8	22.8	85.5	50.8	50.6	(3.04)	52.6	57.9
215	L.....	30.2	33.6	55.0	21.8	20.1	19.1	48.9	1.58	28.1	22.7
216	R.....	31.2	36.6	60.6	23.8	54.1	28.8	57.0	1.33	39.2	35.8
217	RP.....	32.2	37.2	67.5	22.9	68.5	29.3	65.8	.92	44.5	41.3
218	RPK.....	49.5	40.2	66.4	24.5	77.4	41.1	63.3	.92	48.7	50.5
219	RLNPK.....	51.1	47.6	73.0	24.5	81.7	47.2	62.2	1.50	54.3	57.3
220	0.....	30.4	32.2	49.5	21.4	27.2	19.5	55.0	(1.69)	23.5	23.2

¹No lime, residues, manure, or cover crops. ²No soil treatment applied, no yields taken. ³No lime or manure. ⁴No lime.

TABLE 63a.—UNION GROVE FIELD, MINOR ROTATION: CROP YIELDS IN SOIL EXPERIMENTS

Plot No.	Soil treatment applied ¹	1913	1914	1915	1916	1917
		Potatoes	Potatoes	Potatoes	Alfalfa	Alfalfa
Bushels or (tons) per acre						
301	0.....	46.8	59.2	66.8	(1.60)	....
302	M.....	112.2	142.3	265.0	(5.35)	....
303	ML.....	83.7	113.6	237.4	(5.54)	....
304	MLP.....	91.7	117.5	251.8	(5.67)	....
			Alfalfa	Alfalfa	Potatoes	Potatoes
401	0.....	....	(3.30)	(4.74)	68.4	54.6
402	M.....	....	(3.55)	(4.72)	143.5	149.2
403	ML.....	....	(3.81)	(4.87)	123.3	152.5
404	MLP.....	....	(3.58)	(5.00)	115.2	134.2
			Alfalfa	Alfalfa	Alfalfa	Alfalfa
501	0.....	....	(3.03)	(4.47)	(4.12)	....
502	M.....	....	(3.32)	(4.50)	(4.12)	....
503	ML.....	....	(4.40)	(5.24)	(4.99)	....
504	MLP.....	....	(5.34)	(5.57)	(5.88)	....

¹No manure for alfalfa on Series 400 or 500.

TABLE 64.—UNION GROVE FIELD: GENERAL SUMMARY, FULLY TREATED PLOTS

Serial plot No.	Soil treatment applied	Average annual yields—bushels or (tons) per acre					
		Corn	Oats	Barley	Clover	Soy-beans	Potatoes
		6 crops	2 crops	1 crop	2 crops	1 crop	5 crops
1	L.....	36.3	51.8	44.7	(3.56)	(1.55)	....
2	RL.....	51.6	56.7	53.9	1.09	17.7	....
3	ML.....	57.8	54.8	60.2	(3.86)	(2.41)	....
4	CvML.....	56.2	52.9	55.9	(3.47)	(2.38)	....
5	L.....	36.6	42.1	41.7	(3.11)	(1.50)	....
6	LP.....	39.8	51.3	54.9	(3.39)	(1.30)	....
7	RLP.....	55.0	65.3	62.2	1.17	14.8	....
8	MLP.....	59.1	47.1	61.5	(3.51)	(2.20)	....
9	CvMLP.....	60.1	55.1	57.7	(3.65)	(2.30)	....
10	L.....	38.1	50.6	47.7	(3.56)	(1.62)	....
11	LPK.....	54.1	54.0	60.9	(3.94)	(1.60)	....
12	RLPK.....	61.2	65.8	64.3	.80	16.8	....
13	MLPK.....	61.1	55.3	56.7	(3.17)	(2.25)	....
14	CvMLPK.....	59.4	54.9	61.9	(3.10)	(2.18)	....
15	L.....	26.3	47.7	45.0	1.38	14.2	....
16	R.....	41.3	58.2	54.5	1.41	15.9	....
17	RP.....	48.7	66.5	58.6	1.42	12.7	....
18	RPK.....	56.4	66.5	58.8	1.25	16.4	....
19	RLNPK.....	59.7	66.3	57.6	1.17	17.1	....
20	0.....	26.4	54.6	45.5	(2.33)	(1.08)	....
1	0.....	....	....	....	....	....	59.2
2	M.....	....	....	....	....	....	162.4
3	ML.....	....	....	....	....	....	142.1
4	MLP.....	....	....	....	....	....	142.1

GENERAL NOTES.—The main rotation consists of corn, corn, oats, and clover. The soil treatment as indicated for each plot is standard, as described in the introduction, with the exception that potassium is supplied in 100 pounds of potassium sulfate per acre per year and that one half of Plot 19 receives 200 pounds of dried blood and the other half 376 pounds of gluten meal, per acre per year.

The minor rotation consists of potatoes and alfalfa. The potatoes are grown on the same land for three years while the alfalfa is grown for six years. The soil treatment is standard, as described in the introduction, except that 15 tons per acre of manure is applied for each potato crop.

TABLE 65.—UNIONVILLE FIELD, MAIN ROTATION: CROP YIELDS IN SOIL EXPERIMENTS
YELLOW-GRAY SILT LOAM, TIMBER SOIL; UNGLACIATED

Plot No.	Soil treatment applied	1911	1912	1913	1914	1915	1916	1917
		Seed cotton, ¹ lbs.	Corn ¹	Cow-peas ⁴	Wheat ³	Seed cotton, lbs.	Corn	Cow-peas
• Bushels or (tons) per acre								
101	0.....	1120	36.6	(1.19)	13.6	340	44.1	(.83)
102	M.....	793	30.8	(.70)	13.4	525	47.9	(1.07)
103	ML.....	710	46.5	(1.20)	20.4	935	61.2	(1.50)
104	MLP....	625	47.2	(1.01)	20.5	775	54.0	(1.32)
105	0.....	450	36.3	5.1	11.7	155	37.2	4.4
106	R.....	440	37.1	6.4	14.7	65	38.1	4.2
107	RL.....	403	56.7	6.2	23.2	390	56.8	4.6
108	RLP....	350	53.8	7.0	25.2	430	60.5	3.7
109	RLPK..	483	53.1	8.1	26.7	575	59.8	5.0
110	0.....	323	28.1	(.64)	8.8	265	32.0	(.80)
		Wheat ²	Seed cotton, lbs.	Corn	Cow-peas	Wheat	Seed cotton, lbs.	Corn
201	0.....	15.8	22	18.2	(.34)	9.8	485	21.0
202	M.....	16.3	32	24.9	(.24)	11.6	490	23.6
203	ML.....	15.9	150	31.4	(.23)	18.7	590	30.1
204	MLP....	17.6	170	34.5	(.29)	22.5	600	35.7
205	0.....	16.6	45	21.0	.8	11.0	490	20.6
206	R.....	14.0	25	17.1	3.8	12.8	365	24.4
207	RL.....	15.2	55	23.3	2.2	19.2	395	48.3
208	RLP....	14.3	82	27.1	2.5	26.3	600	47.9
209	RLPK..	17.8	178	33.0	4.4	30.8	820	56.8
210	0.....	12.8	35	19.6	(.34)	11.1	290	24.4
		Cow-peas ¹	Wheat ³	Seed cotton, lbs.	Corn	Cow-peas	Wheat	Seed cotton, lbs.
301	0.....	5.5	4.1	265	6.6	(.50)	3.8	62
302	M.....	5.6	3.0	532	5.1	(.56)	7.5	90
303	ML.....	5.7	6.2	690	4.6	(.94)	14.9	385
304	MLP....	6.6	7.4	960	4.9	(2.33)	22.3	325
305	0.....	5.7	4.0	212	3.0	.3	4.8	52
306	R.....	7.3	3.9	192	3.0	.3	5.7	55
307	RL.....	6.9	5.6	188	6.2	.6	12.8	210
308	RLP....	7.8	8.1	232	5.0	.5	19.2	210
309	RLPK..	8.9	12.6	365	5.6	.8	24.5	355
310	0.....	5.5	5.1	162	3.9	(.44)	5.7	65
		Corn ¹	Cow-peas ⁴	Wheat ³	Seed cotton, lbs.	Corn	Cow-peas	Wheat
401	0.....	31.5	(.54)	2.8	235	35.2	(.77)	4.3
402	M.....	36.1	(.55)	4.0	430	50.2	(1.03)	8.7
403	ML.....	36.9	(.71)	9.8	530	54.2	(1.34)	15.4
404	MLP....	34.0	(.78)	12.5	435	53.4	(1.50)	19.3
405	0.....	27.8	(.54)	2.3	215	34.7	.5	4.9
406	R.....	26.4	....	1.8	245	36.6	.5	5.3
407	RL.....	30.4	....	10.9	200	46.8	.4	15.6
408	RLP....	31.1	....	13.2	250	53.6	.5	17.0
409	RLPK..	36.2	....	15.2	355	56.2	.6	19.6
410	0.....	27.1	*(.50)	1.1	310	33.1	(.77)	3.2

¹Lime only. ²No manure or residues. ³No manure. ⁴No manure, phosphate, or potassium.

TABLE 65a.—UNIONVILLE FIELD, MINOR ROTATION: CROP YIELDS IN SOIL EXPERIMENTS

Plot No.	Soil treatment applied	1911 Cow-peas	1912	1913 Alfalfa	1914 Alfalfa	1915 Alfalfa	1916 Soy-beans	1917 Potatoes
501	0.....	....	....	(.09)	(.44)	(.42)	5.2	13.9
502	MLP...	....	....	(1.16)	(1.33)	(1.97)	16.8	95.7
503	RLP...	....	....	(.66)	(1.09)	(1.47)	15.1	17.1
504	RLPK..	....	....	(.84)	(1.07)	(1.49)	14.5	27.5
505	0.....	....	....	(.15)	(.53)	(.88)	3.5	17.9
506	0.....	....	....	(.33)	(.43)	....	5.3	20.2
507	0.....	....	....	(.62)	(.33)	....	9.4	20.3
508	0.....	....	....	(.38)	(.47)	....	7.5	18.7
			Wheat ²	Clover ³	Potatoes	Wheat	Alfalfa	Alfalfa
601	0.....	....	4.4	(.50)	23.2	11.4	(.66)	(.35)
602	MLP...	....	7.7	(.95)	3.0	33.9	(5.05)	(2.83)
603	RLP...	....	7.7	.75	5.8	20.8	(3.79)	(1.86)
604	RLPK..	....	11.6	.50	7.0	24.7	(4.34)	(1.94)
605	0.....	....	7.0	(.60)	7.6	14.2	(1.44)	(.56)
606	0.....	....	7.5	(.89)	13.2	15.8	(1.47)	(.68)
607	0.....	....	5.5	(.99)	5.7	12.6	(1.50)	(.68)
608	0.....	....	5.5	(1.16)	9.3	14.8	(1.78)	(.61)
		Cow-peas ¹	Potatoes	Wheat	Soy-beans	Potatoes	Wheat	Clover
701	0.....	5.4	18.0	3.5	(.18)	21.6	4.5	(.52)
702	MLP...	6.2	31.6	30.8	(.58)	218.4	23.8	(2.00)
703	RLP...	....	11.8	18.5	1.1	45.0	13.7	1.42
704	RLPK..	....	8.5	19.9	1.1	30.6	13.4	1.33
705	0.....	2.9	8.5	3.7	.5	18.7	4.4	(.41)
706	0.....	....	12.3	5.6	(.17)	15.0	4.0	(.48)
707	0.....	....	5.7	2.9	(.12)	13.1	3.4	(.39)
708	0.....	....	9.3	4.8	(.13)	22.4	4.2	(.66)
		Wheat ²	Soy-beans ³	Potatoes	Wheat	Soy-beans	Potatoes	Oats
801	0.....	16.0	(.29)	4.5	10.0	(.83)	3.2	21.1
802	MLP...	18.3	(.66)	6.0	24.6	(2.44)	13.5	30.3
803	RLP...	15.5	2.8	6.4	24.4	6.8	3.7	46.2
804	RLPK..	17.1	4.2	6.3	23.5	4.2	4.4	44.5
805	0.....	15.2	1.2	4.0	13.5	1.9	1.2	26.7
806	0.....	13.7	(.28)	7.8	14.5	(.88)	2.0	24.1
807	0.....	14.0	(.31)	7.1	13.8	(1.08)	1.4	24.7
808	0.....	14.0	(.35)	7.1	14.1	(1.26)	1.8	24.4

¹Lime only. ²No manure or residues. ³No manure.

TABLE 66.—UNIONVILLE FIELD: GENERAL SUMMARY, FULLY TREATED PLOTS

Serial plot No.	Soil treatment applied	Average annual yields—bushels or (tons) or pounds per acre									
		Corn 5 crops	Wheat ¹ 4 crops	Seed Cotton, lbs.	Cow- peas 4 crops	Alfalfa 5 crops	Potatoes 6 crops	Wheat 4 crops	Soy- beans 3 crops	Clover 1 crop	Oats 1 crop
1	0	25.0	7.9	235	(.61)	....	....	....	....	....	....
2	M	30.3	10.3	350	(.72)	....	....	....	....	....	....
3	ML	36.3	17.3	547	(1.00)	....	....	....	....	....	....
4	MLP	36.5	21.1	544	(1.36)	....	....	....	....	....	....
5	0	23.3	8.1	195	1.5	....	....	....	....	....	....
6	R	23.8	9.6	158	2.2	....	....	....	....	....	....
7	RL	36.3	17.7	240	2.0	....	....	....	....	....	....
8	RLP	38.8	21.9	301	1.8	....	....	....	....	....	....
9	RLPK	42.3	25.4	441	2.7	....	....	....	....	....	....
10	0	22.6	7.2	188	(.59)	....	....	....	....	....	....
1	0	....	....	....	....	(.39)	14.1	7.3	(.51)	(.52)	21.1
2	MLP	....	....	....	....	(2.47)	61.4	28.2	(1.57)	(2.00)	30.3
3	RLP	....	....	....	....	(1.77)	15.0	19.3	7.7	1.42	46.2
4	RLPK	....	....	....	....	(1.94)	14.0	20.4	6.6	1.33	44.5

GENERAL NOTES.—The main rotation consists of corn, cowpeas or soybeans, wheat, and cotton; cover crops being grown on the residue plots after corn, wheat, and cotton. The minor rotation is alfalfa, potatoes, wheat, and clover. The alfalfa is grown for four years on the same land, after which it is seeded on another series. The soil treatment is standard, as described in the introduction, except that 30 tons of manure (45 tons before 1916) is applied per acre to the manure plots before potatoes are planted.

¹No manure on 1914 wheat.

TABLE 67.—URBANA FIELD, MORROW PLOTS: CROP YIELDS IN SOIL
EXPERIMENTS
BROWN SILT LOAM PRAIRIE; EARLY WISCONSIN GLACIATION

Years	Soil treatment applied	Corn every year	Two-year rotation		Three-year rotation		
		Corn	Corn	Oats	Corn	Oats	Clover
		Bushels or (tons) per acre					
1879							
-87	None.....	.....	.....	.....	.....	.....	.....
1888	None.....	54.3	49.5	.....	.....	48.6	.....
1889	None.....	43.2	.....	37.4	.....	.....	(4.04)
1890	None.....	48.7	54.3	.....	.....	.....	(1.51)
1891	None.....	28.6	33.2	.....	.....	.....	(1.46)
1892	None.....	33.1	.....	37.2	70.2	.....	.....
1893	None.....	21.7	29.6	.....	34.1	.....	.....
1894	None.....	34.8	.....	57.2	.....	65.1	.....
1895	None.....	42.2	41.6	.....	.....	22.2	.....
1896	None.....	62.3	.....	34.5	.....	.....	.....
1897	None.....	40.1	47.0	.....	.....	.....	.....
1898	None.....	18.1	.....	.....	.....	.....	.....
1899	None.....	50.1	44.4	.....	53.5	.....	.....
1900	None.....	48.0	.....	41.5	.....	.....	.....
1901	None.....	23.7	33.7	.....	34.3	.....	.....
1902	None.....	60.2	.....	56.3	.....	54.6	.....
1903	None.....	26.0	35.9	.....	.....	.....	(1.11)
1904	None.....	21.5	.....	17.5	55.3	.....	.....
1904	MLP.....	17.1	.....	25.3	72.7	.....	.....
1905	None.....	24.8	50.0	.....	.....	42.3	.....
1905	MLP.....	31.4	44.9	.....	.....	50.6	.....
1906	None.....	27.1	.....	34.7	.....	.....	(1.42) ¹
1906	MLP.....	35.8	.....	52.4	.....	.....	(1.74) ¹
1907	None.....	29.0	47.8	.....	80.5	.....	.....
1907	MLP.....	48.7	87.6	.....	93.6	.....	.....
1908	None.....	13.4	.....	32.9	.....	40.0	.....
1908	MLP.....	28.0	.....	45.0	.....	44.4	.....
1909	None.....	26.6	33.0	.....	.....	.....	(.65) .64
1909	MLP.....	31.6	64.8	.....	.....	.....	(1.73) 1.17
1910	None.....	35.9	.....	33.8	58.6	.....	.....
1910	MLP.....	54.6	.....	59.4	83.3	.....	.....
1911	None.....	21.9	28.6	.....	.....	20.6	.....
1911	MLP.....	31.5	46.3	.....	.....	38.0	.....
1912	None.....	43.2	.....	55.0	.....	.....	16.3 ¹
1912	MLP.....	64.2	.....	81.0	.....	.....	20.0 ¹
1913	None.....	19.4	29.2	.....	33.8	.....	.....
1913	MLP.....	32.0	25.0	.....	47.8	.....	.....
1914	None.....	31.6	.....	33.6	.....	39.6	.....
1914	MLP.....	39.4	.....	58.2	.....	60.4	.....
1915	None.....	40.0	49.0	.....	.....	.....	24.2 ¹
1915	MLP.....	66.0	81.2	.....	.....	.....	27.1 ¹
1916	None.....	11.2	.....	37.5	27.8	.....	.....
1916	MLP.....	10.8	.....	64.7	40.6	.....	.....
1917	None.....	40.0	48.4	.....	.....	68.4	.....
1917	MLP.....	78.0	81.4	.....	.....	86.9	.....

¹Soybeans.

TABLE 67.—URBANA FIELD, MORROW PLOTS, *Concluded*

Years	Soil treatment applied	Corn every year	Two-year rotation		Three-year rotation		
		Corn	Corn	Oats	Corn	Oats	Clover
		Bushels or (tons) per acre					
Average of Crops Within Ten-Year Periods							
1888 to 1897	None.....	40.9	42.5	41.6	52.1	45.3	(2.34)
1898 to 1907	None.....	32.9	42.4	37.5	55.7	48.4	(1.27) ²
	MLP.....	33.2	66.2	38.9	83.1	50.6	(1.74) ²
1908 to 1917	None.....	28.3	37.6	38.6	40.7	42.1	(1.78) ²
	MLP.....	43.6	59.7	61.7	57.2	57.4	(2.54) ²

GENERAL NOTES.—The Morrow plots consist of three plots divided into halves. On one corn is grown continuously; on the second corn and oats are grown in rotation; and on the third, corn, oats and clover. The north half of each plot is untreated, while the south half receives standard applications of manure, cover crops (in the one-crop and two-crop systems). Rock phosphate is applied to the southwest one-fourth of each plot at the rate of 600 pounds, and steamed bone meal to the southeast one-fourth at the rate of 200 pounds per acre per year. In 1904 ground limestone was applied at the rate of 1,700 pounds per acre to the south half of each plot.

²Beans and clover averaged together as hay; 10 bushels beans to 1 ton hay.

TABLE 68.—URBANA FIELD, NORTH FARM: CROP YIELDS IN SOIL EXPERIMENTS
BROWN SILT LOAM PRAIRIE; EARLY WISCONSIN GLACIATION

Plot No.	Soil treatment applied	Bushels or (tons) per acre															
		1902 ¹ Corn	1903 ² Oats	1904 ² Clover	1905 Corn	1906 Oats	1907 Clover	1908 Corn	1909 Oats	1910 Clover	1911 Wheat	1912 Corn	1913 Oats	1914 Soy-beans	1915 Wheat	1916 Al-falfa	1917 Al-falfa
101	0	78.3	47.5	(0.43)	76.9	63.4	(2.15)	66.5	45.6	(3.02)	33.1	82.0	28.4	(1.61)	37.6	(1.97)	(3.00)
102	R	82.2	28.9	(0.31)	73.3	73.1	1.50	70.0	49.1	1.50	39.1	86.0	28.0	21.5	39.0	(2.50)	(3.26)
103	M	80.9	51.3	(0.22)	82.8	73.4	(2.87)	83.9	52.9	(3.44)	38.1	99.2	36.5	(1.63)	42.9	(2.88)	(3.42)
104	RL	80.1	35.0	(0.25)	71.8	75.9	1.86	68.9	49.4	1.83	40.6	87.8	30.0	19.8	36.0	(3.88)	(3.80)
105	ML	80.1	66.3	(0.28)	79.6	71.5	(2.90)	83.0	51.6	(3.97)	41.4	94.8	34.3	(1.64)	40.8	(4.23)	(3.83)
106	RLP	85.5	34.5	(0.33)	82.3	92.5	1.77	77.0	52.9	1.58	43.9	93.4	37.2	23.2	45.9	(4.66)	(3.93)
107	MLP	87.0	56.3	(1.79)	82.1	97.5	(3.53)	78.5	55.0	(5.32)	48.0	98.4	42.9	(1.83)	45.3	(4.63)	(4.20)
108	RLPK	87.8	17.1	(0.67)	83.9	94.1	1.67	75.4	49.4	1.82	44.3	87.8	38.8	24.2	46.6	(4.62)	(4.41)
109	MLPK	89.7	49.2	(2.79)	87.0	81.9	(3.60)	82.1	51.0	(5.00)	47.1	97.2	47.2	(2.04)	45.6	(4.70)	(4.21)
110	MX5LPx5	85.9	50.9	(2.50)	81.3	71.5	(3.66)	75.4	47.6	(4.54)	46.6	105.8	47.6	(2.10)	40.3	(4.50)	(4.17)
		Cow-peas	Corn	Oats	Clover ²	Corn	Oats	Clover	Corn	Oats	Soy-beans	Wheat	Corn	Oats	Soy-beans	Wheat	Corn
201	0	(1.03)	72.8	45.6	(1.39)	57.0	27.2	(2.06)	35.4	41.0	(1.80)	5.3	44.0	38.8	(1.62)	22.0	69.0
202	R	(1.01)	75.8	52.2	1.58	56.5	32.8	2.89	27.6	47.9	22.7	5.6	44.4	42.8	24.7	26.0	72.8
203	M	(1.02)	70.0	46.6	(1.37)	70.4	35.3	(2.36)	49.8	48.5	(1.82)	4.6	55.2	51.2	(1.90)	31.7	82.4
204	RL	(1.01)	71.4	48.4	1.25	57.6	35.6	2.83	34.8	50.3	21.3	6.6	43.6	40.6	26.0	27.8	86.0
205	ML	(1.03)	73.0	45.6	(1.41)	73.6	37.8	(2.54)	56.4	52.8	(1.93)	6.1	49.6	51.2	(1.90)	49.0	87.8
206	RLP	(1.17)	83.6	60.3	1.25	84.2	45.3	4.08	78.6	64.1	25.3	23.0	46.6	65.9	27.2	51.0	93.4
207	MLP	(1.16)	81.8	50.3	(2.63)	87.4	44.4	(4.10)	86.4	63.8	(2.30)	23.7	56.0	66.9	2.02	51.2	95.6
208	RLPK	(1.24)	87.4	60.0	2.33	85.8	46.3	3.14	83.6	64.4	25.9	27.1	47.2	70.9	30.3	50.0	99.0
209	MLPK	(1.22)	86.9	46.9	(3.00)	86.6	43.8	(3.77)	91.2	66.6	(2.78)	24.7	51.6	75.0	(2.10)	51.0	90.8
210	MX5LPx5	(1.19)	82.1	42.5	(3.09)	71.0	41.9	(3.71)	69.0	65.0	(2.85)	33.1	45.4	(76.9)	2.24	45.7	106.8

¹No residues or manure. ²No manure. ³Yield taken from small area and entire crop plowed under. ⁴Hay yields include stubble clover of 1915. E. Error in harvesting.

TABLE 68.—URBANA FIELD, NORTH FARM, Concluded

Plot No.	Soil treatment applied	Bushels or (tons) per acre															
		1902 Oats ¹ Clover ¹⁻³	1903 Clover ¹⁻³	1904 Corn ²	1905 Oats ²	1906 Clover ²	1907 Corn	1908 Oats	1909 Clover	1910 Corn	1911 Oats	1912 Soybeans	1913 Wheat	1914 Corn	1915 Oats	1916 Clover ⁴	1917 Wheat
301	O.....	53.4	(2.38)	75.0	49.1	(1.37)	80.5	35.9	(1.83)	46.2	25.8	(1.38)	11.2	49.4	72.2	(3.16)	20.5
302	R.....	54.3	(2.50)	74.2	50.0	.83	75.8	33.1	(1.40)	51.0	27.2	16.2	12.1	51.0	76.6	1.33	40.3
303	M.....	53.4	(2.63)	75.1	55.6	(1.43)	88.4	37.2	(1.80)	74.2	33.8	(1.36)	15.2	50.8	77.6	(2.98)	16.5
304	RL.....	58.4	(2.44)	83.7	64.4	1.00	87.4	37.5	1.50	70.6	35.5	15.8	17.2	56.4	77.4	1.17	45.0
305	ML.....	62.8	(2.63)	89.2	70.0	(2.01)	101.1	38.1	(2.32)	85.2	46.3	(1.40)	22.2	54.8	80.3	(3.60)	24.7
306	RLP.....	62.8	(2.88)	94.9	74.4	1.50	104.6	46.6	2.25	95.8	54.1	1.45	36.0	67.8	87.0	1.33	50.7
307	MLP.....	63.1	(2.94)	97.5	72.8	(2.65)	110.1	47.5	(3.10)	94.8	56.4	(1.52)	33.2	67.4	80.6	(4.38)	37.7
308	RLPK.....	67.8	(3.44)	95.0	74.7	1.42	111.6	46.6	1.00	101.0	53.5	16.5	32.2	67.0	85.8	1.00	50.7
309	MLPK.....	66.8	(3.63)	94.8	75.0	(3.18)	113.1	43.1	(2.93)	99.4	58.7	(1.44)	31.3	61.2	86.4	(4.47)	37.8
310	Mx5LPx5.....	66.2	(3.69)	91.5	75.6	(3.17)	118.0	50.3	(3.11)	99.6	64.8	(1.48)	46.3	43.0	93.7	(4.29)	39.0
401	O.....	52.8	47.0	35.0	69.4	59.7	68.4	38.4	46.2	52.8	27.9	66.2	(1.70)	23.7	66.4	56.2	(1.49)
402	R.....	57.5	42.9	38.4	62.9	54.4	69.9	36.9	38.6	52.5	33.9	64.4	.74	21.8	66.8	55.3	53
403	M.....	59.6	50.2	34.1	69.4	57.5	69.4	35.9	48.4	54.7	32.1	73.8	(1.43)	23.2	80.8	78.8	(2.18)
404	RL.....	61.2	45.1	39.6	64.1	58.7	75.9	34.7	43.6	57.8	34.9	65.0	1.03	24.7	73.2	60.6	1.58
405	ML.....	62.1	48.1	36.8	72.0	63.1	66.6	39.7	47.2	58.8	35.3	74.4	(1.94)	29.8	82.6	80.9	(2.65)
406	RLP.....	67.1	E	53.7	68.0	74.1	84.6	49.1	57.6	68.4	41.0	77.5	2.48	46.8	80.8	81.6	2.33
407	MLP.....	62.5	E	42.8	71.4	63.1	68.6	45.3	46.0	64.7	33.5	77.5	(2.90)	41.5	82.6	86.9	(3.22)
408	RLPK.....	62.1	E	44.6	58.0	62.8	84.1	49.4	58.8	65.3	35.5	73.4	1.41	40.7	81.0	82.5	1.72
409	MLPK.....	66.5	48.9	36.5	74.1	58.4	71.4	45.9	51.6	65.3	28.5	79.4	(2.72)	38.2	84.4	89.1	(2.89)
410	Mx5LPx5.....	66.2	46.0	39.1	67.0	58.7	95.6	55.3	72.6	57.8	28.6	79.4	(2.94)	48.2	82.0	88.4	(3.04)
501	O.....	57.6	42.5	59.0	52.5	58.3	28.4	37.5	45.4	54.6	.....	(.42)	(2.78)	(3.58)	Al-falfa	Corn	Oats
502	R.....	58.4	43.2	52.6	55.6	51.9	29.4	45.0	43.5	58.6	.....	(.06)	(2.46)	(2.56)	(4.59)	39.0	83.1
503	M.....	55.3	43.2	46.2	51.6	54.3	29.7	48.2	48.2	55.4	.....	(.07)	(1.97)	(2.49)	(4.19)	37.6	87.2
504	RL.....	54.6	46.9	46.0	52.8	48.9	29.1	39.3	45.6	52.8	.....	(.06)	(2.08)	(2.60)	(3.88)	46.6	93.1
505	ML.....	57.2	52.1	48.9	58.1	57.8	33.8	39.6	47.5	59.4	.....	(.32)	(2.92)	(3.43)	(3.87)	39.4	81.6
506	RLP.....	61.6	63.4	71.6	64.4	63.3	38.8	76.1	52.5	92.6	.....	(.89)	(5.47)	(4.40)	(5.61)	46.0	104.7
507	MLP.....	66.2	73.1	63.2	63.8	61.8	41.3	46.1	54.7	98.0	.....	(.99)	(5.29)	(4.24)	(5.74)	43.8	90.9
508	RLPK.....	68.4	68.8	63.6	61.2	58.3	39.1	74.1	52.6	99.4	.....	(1.01)	(5.05)	(4.24)	(5.81)	45.0	109.7
509	MLPK.....	70.0	67.1	63.0	56.6	49.6	36.6	39.8	51.6	62.6	.....	(1.18)	(5.23)	(4.24)	(5.90)	37.6	90.0
510	Mx5LPx5.....	65.3	62.8	57.1	42.2	64.9	38.5	75.0	49.1	99.4	.....	(1.70)	(5.42)	(4.24)	(5.90)	27.0	85.6

(See preceding section for footnotes.)

TABLE 69.—URBANA FIELD, NORTH FARM: GENERAL SUMMARY, FULLY TREATED PLOTS

Serial plot No.	Soil treatment applied	Average annual yields—bushels or (tons) per acre					
		Corn 19 crops	Oats 17 crops	Wheat 7 crops	Clover 8 crops ¹	Soy-beans 4 crops	Alfalfa 6 crops
1	O.....	56.6	47.6	21.9	(2.10)	(1.60)	(2.33)
2	R.....	56.8	49.1	26.3	1.34	21.3	(2.14)
3	M.....	64.6	54.0	24.6	(2.31)	(1.68)	(2.10)
4	RL.....	59.8	50.9	28.3	1.60	20.7	(2.32)
5	ML.....	66.8	56.2	30.6	(2.74)	(1.72)	(2.76)
6	RLP.....	75.4	64.2	42.5	2.16	22.6	(3.56)
7	MLP.....	72.6	63.5	40.1	(3.62)	(1.92)	(3.58)
8	RLPK.....	75.6	64.4	41.7	1.64	24.2	(3.59)
9	MLPK.....	71.6	62.9	39.4	(3.57)	(2.09)	(3.63)
10	Mx5LPx5.....	75.1	62.5	42.7	(3.56)	(2.17)	(3.70)

GENERAL NOTES.—From 1902 to 1911 the first three series were grown to corn, oats, and clover, and the last two to corn and oats. Beginning with 1911 the five series were thrown into a rotation of corn, oats, clover, and wheat, with alfalfa on the fifth series. The alfalfa remains down for five years and is then moved ahead on the other series. Until 1908 the phosphorus was applied in 200 pounds of steamed bone meal per acre per year; since that time this application has been made to the east halves only, while 600 pounds of rock phosphate has been applied to the west halves. Air-slacked lime was applied in 1902 (250 pounds) and in 1903 (600 pounds), and no further applications were made until 1911, after which standard applications were made as described in the introduction. Manure was applied for corn at the rate of 4 tons per acre in the two-crop rotation and 6 tons in the three-crop rotation in 1905, 1906, and 1907; the residue system included only cover crops from 1902 to 1907; after which both manure and residues have been standard, except that Plot 10 receives about five times the standard amounts of manure and phosphorus.

¹No manure on 1906 clover.

TABLE 70.—URBANA FIELD, SOUTH FARM: CROP YIELDS IN SOIL EXPERIMENTS
BROWN SILT LOAM PRAIRIE; EARLY WISCONSIN GLACIATION
ROTATION: CORN, OATS, CLOVER, WHEAT

Plot No.	Soil treatment applied	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917
		Corn	Corn	Oats	Wheat	Clover	Corn	Oats	Clover	Wheat ¹	Corn	Oats	Soy-beans	Wheat	Corn	Oats
Bushels or (tons) per acre																
163	RLP	45.1	54.1	57.5	39.8	.83	72.0	45.4	.60	46.9	74.9	26.8	16.6	46.9	37.6	78.8
166	RP	43.8	49.3	60.9	36.5	1.00	74.9	40.8	1.30	53.4	79.5	24.6	17.5	44.4	41.6	74.1
169	R	42.7	39.5	49.3	28.4	.90	65.0	39.9	1.70	36.7	67.9	19.1	15.3	26.6	29.2	59.9
170	M	41.8	38.7	52.2	26.2	(2.56)	69.6	40.1	(2.87)	35.9	76.7	22.5	(1.09)	31.8	37.2	67.4
173	MP	35.4	53.3	54.6	32.8	(3.65)	78.4	39.8	(4.23)	52.7	83.7	29.6	(1.45)	50.5	41.9	78.4
176	MP	39.3	58.1	61.9	38.8	(3.74)	79.5	40.0	(4.23)	51.0	85.6	32.1	(1.52)	48.9	41.5	75.1
163	RLP	.....	.....	.....	.....	.....	.....	.....	.....	49.9	87.0	28.2	18.1	50.9	47.2	57.3
166	RLP	.....	.....	.....	.....	.....	.....	.....	.....	53.6	81.4	26.8	18.0	49.6	45.7	66.6
169	R	.....	.....	.....	.....	.....	.....	.....	.....	33.8	62.7	17.0	15.2	25.9	33.6	61.4
170	M	.....	.....	.....	.....	.....	.....	.....	.....	32.4	74.4	22.0	(1.09)	31.2	34.5	63.1
173	MLP	.....	.....	.....	.....	.....	.....	.....	.....	51.3	85.7	28.0	(1.37)	52.4	46.6	63.6
176	MLP	.....	.....	.....	.....	.....	.....	.....	.....	51.0	85.6	30.9	(1.47)	53.0	44.3	66.1
Soy-beans																
263	RP	24.7	25.7	32.1	(.82)	65.3	31.3	42.5	43.7	52.3	72.9	13.7	30.6	57.9	57.0	(1.93)
266	RP	23.1	24.5	29.3	(.80)	59.7	26.7	40.7	32.3	50.2	75.7	12.3	33.9	56.4	58.5	(1.90)
269	R	26.8	22.5	26.8	(.86)	57.9	31.5	39.4	25.3	35.5	61.9	10.7	16.1	45.9	51.6	(1.68)
270	M	22.0	21.5	24.0	(.82)	55.3	30.0	37.1	28.7	43.1	67.8	(.84)	17.4	57.0	58.9	(1.73)
273	MP	23.9	25.0	27.8	(.77)	62.5	29.5	43.4	43.7	38.6	69.4	(1.17)	37.2	61.5	76.9	(1.74)
276	MP	16.1	25.3	30.7	(.68)	58.0	27.9	44.1	38.2	48.0	68.6	(1.34)	42.0	57.6	74.8	(1.85)
Wheat																
263	RLP	.....	.....	.....	.....	.....	.....	.....	49.0	50.3	78.9	13.2	40.4	50.0	65.5	(2.01)
266	RLP	.....	.....	.....	.....	.....	.....	.....	45.2	47.1	78.7	10.3	36.0	55.8	64.0	(2.08)
269	R	.....	.....	.....	.....	.....	.....	.....	35.3	45.3	68.4	10.5	20.7	53.3	60.0	(2.28)
270	M	.....	.....	.....	.....	.....	.....	.....	33.3	45.2	73.2	(1.13)	20.1	55.5	66.8	(1.81)
273	MLP	.....	.....	.....	.....	.....	.....	.....	46.2	53.7	69.0	(1.27)	46.2	49.6	78.4	(1.90)
279	MLP	.....	.....	.....	.....	.....	.....	.....	39.5	50.6	69.5	(1.24)	49.0	53.5	75.9	(1.96)

¹Limestone not used until 1910 and 1911.

TABLE 70.—URBANA FIELD, SOUTH FARM, *Continued*
BLACK CLAY LOAM PRAIRIE¹; EARLY WISCONSIN GLACIATION

Plot No.	Soil treatment applied	Bushels or (tons) per acre														
		1903 Oats	1904 Wheat	1905 Clover	1906 Corn	1907 Oats	1908 Wheat	1909 Clover	1910 Corn	1911 Oats	1912 Soy-beans	1913 Wheat	1914 Corn	1915 Oats	1916 Clover	1917 Wheat
363	RP.....	28.5	16.6	(1.52)	79.7	35.4	39.4	.86	72.5	64.1	17.5	38.1	70.5	80.9	.93	46.2
366	RP.....	28.4	21.5	(1.52)	82.0	35.0	45.7	.33	72.7	68.1	16.7	45.8	66.8	82.3	1.07	48.1
369	R.....	28.4	13.5	(1.25)	85.0	33.1	39.2	.91	67.3	54.5	16.0	39.8	69.0	79.8	.78	43.3
370	M.....	29.0	15.3	(1.43)	92.4	32.8	29.2	(2.91)	73.0	61.2	(1.18)	41.8	67.4	84.0	(2.90)	35.6
373	MP.....	29.5	15.0	(1.94)	76.5	34.7	44.5	(2.94)	70.1	61.4	(1.17)	44.7	57.1	87.2	(2.90)	36.9
376	MP.....	30.7	16.3	(1.94)	64.4	33.4	45.7	(3.11)	76.0	56.5	(1.17)	46.7	46.5	90.1	(2.86)	31.3
363	RLP.....							.11	76.2	65.6	16.7	34.0	70.1	81.5	1.17	43.1
366	RLP.....							.86	84.6	69.4	17.0	39.6	73.7	80.8	1.37	44.6
369	R.....							.50	69.3	51.4	14.2	27.9	62.5	73.0	.63	38.5
370	M.....							(2.11)	68.0	46.3	(.87)	31.2	62.1	81.2	(2.73)	25.1
373	MLP.....							(2.11)	76.4	50.7	(.82)	40.2	57.3	85.5	(2.94)	31.9
376	MLP.....							(2.23)	73.3	48.0	(.92)	36.7	50.7	80.7	(2.89)	26.0
		Clover ²	Clover ³	Corn	Oats	Wheat	Clover	Corn	Oats	Soy-beans	Corn	Corn	Oats	Soy-beans	Wheat	Corn
463	RP.....			64.8	60.0	43.3	1.34	74.4	56.2	13.3	19.6	45.9	43.5	23.2	45.6	69.8
466	RP.....			64.3	57.0	42.4	1.66	75.9	60.0	15.1	18.6	46.7	46.0	23.1	45.1	73.0
469	R.....			65.0	54.3	40.2	1.48	66.3	54.7	16.0	16.1	33.0	42.0	22.8	30.4	64.2
470	M.....			67.1	53.9	40.2	(2.37)	64.0	51.2	(1.40)	(.97)	51.0	50.2	(1.41)	37.0	74.7
473	MP.....			72.2	59.5	42.6	(2.93)	73.1	55.6	(1.10)	(.87)	49.1	52.5	(2.00)	45.8	82.1
476	MP.....			72.1	60.5	43.0	(2.56)	69.9	59.1	(1.06)	(1.10)	48.8	53.9	(1.92)	43.3	78.7
463	RLP.....							56.9	56.9	11.5	14.1	44.0	49.5	23.3	40.2	66.8
466	RLP.....							52.2	52.2	12.7	19.1	43.0	52.5	24.1	41.2	73.5
469	R.....							47.8	47.8	9.2	15.1	31.5	41.2	23.4	19.1	56.7
470	M.....							45.0	45.0	(1.00)	(.83)	38.3	49.7	(1.85)	27.5	75.8
473	MLP.....							52.5	52.5	(1.37)	(1.15)	57.8	55.4	(2.01)	41.1	88.1
476	MLP.....							57.2	57.2	(1.30)	(1.07)	52.5	54.4	(2.02)	42.0	85.6

NOTE.—The crop rotation and soil treatment as indicated are standard, as described in the introduction.

¹Series 400 is a lighter phase, approaching brown silt loam. ²Not harvested. ³Not harvested by plots.

TABLE 71.—URBANA FIELD, SOUTH FARM: CROP YIELDS IN SOIL EXPERIMENTS
BROWN SILT LOAM PRAIRIE¹; EARLY WISCONSIN GLACIATION
ROTATION: CORN, CORN, OATS, OATS, CLOVER

Plot No.	Soil treatment applied	Bushels or (tons) per acre													
		1903 Corn	1904 Corn	1905 Soy-beans	1906 Oats	1907 Clover	1908 Corn	1909 Corn	1910 Oats	1911 Soy-beans	1912 Corn	1913 Corn	1914 Oats	1915 Soy-beans	1916 Corn
543	RP	38.6	58.8	8.3	70.0	(2.36)	67.0	66.1	53.4	8.6	71.3	38.5	45.1	41.1	69.7
546	RP	35.9	59.0	12.1	71.4	(2.34)	70.3	58.4	61.8	8.8	72.9	39.9	49.5	43.9	68.3
549	R	42.6	50.5	7.6	66.2	(2.23)	61.7	62.2	54.6	8.1	65.6	29.1	36.6	37.0	59.1
550	M	39.7	52.1	(1.27)	65.7	(1.93)	60.3	61.7	56.0	(.97)	66.3	36.1	45.7	46.7	68.7
553	MP	41.0	62.1	(1.30)	64.0	(2.41)	67.1	67.4	48.6	(1.14)	70.8	35.7	36.9	45.1	71.7
556	MP	45.4	55.7	(.49)	59.8	(2.40)	59.9	(²)	52.3	(1.11)	63.2	47.9	44.4	47.5	70.6
		Corn	Corn	Corn	Soy-beans	Corn	Corn	Oats	Clover	Corn	Corn	Oats	Soy-beans	Corn	Oats
643	RP	41.9	51.0	44.3	(.88)	67.0	33.7	49.8	0	44.6	73.1	19.5	19.3	37.5	94.5
646	RP	37.5	45.8	46.8	(.98)	62.8	29.0	49.7	0	46.7	71.2	19.6	19.9	36.9	100.0
649	R	27.6	39.1	37.5	(1.05)	62.8	30.9	47.8	0	32.1	57.5	13.2	16.9	31.6	78.3
650	M	28.3	40.9	42.6	(.98)	57.9	26.3	53.0	(2.30)	36.9	57.5	14.6	(1.45)	51.6	76.3
653	MP	38.9	48.4	48.6	(1.37)	64.5	38.8	51.1	(3.68)	47.0	76.1	19.5	(1.70)	38.5	101.9
656	MP	39.0	43.9	48.5	(1.47)	60.4	34.3	49.8	(3.68)	43.8	80.2	20.0	(1.82)	39.4	100.5
		Corn	Corn	Corn	Corn	Corn	Oats	Clover	Corn	Corn	Oats	Clover	Corn	Oats	Soy-beans
743	RP	38.3	54.8	51.2	37.2	51.1	17.0	.59	90.7	28.9	80.0	1.10	49.5	81.1	18.0
746	RP	37.8	49.4	52.5	47.7	41.0	19.5	.72	61.3	30.1	77.2	1.04	50.4	85.5	18.0
749	R	35.6	48.5	44.3	46.7 ²	51.0	18.7	.56	72.7	33.4	75.3	.96	48.9	90.9	18.5
750	M	36.5	42.3	48.2	44.2	48.3	17.8	(1.83)	68.5	25.7	80.7	(1.55)	52.6	81.4	(2.52)
753	MP	33.2	43.3	49.0	54.5	54.5	20.3	(2.30)	70.9	31.4	82.6	(1.82)	52.2	91.8	(2.45)
756	MP	32.9	41.3	46.0	54.2	43.2	21.2	(1.49)	67.3	29.4	80.4	(1.80)	52.2	90.6	(2.39)
		Soy-beans	Soy-beans	Corn	Corn	Oats	Clover	Corn	Corn	Oats	Soy-beans	Corn	Corn	Oats	Corn
843	RP	14.0	17.5	70.2	54.7	61.2	.80	68.1	70.0	41.9	14.2	36.8	41.6	.94	62.4
846	RP	13.3	12.6	67.3	60.2	51.8	.91	62.7	63.0	41.2	15.8	52.9	51.9	1.11	69.1
849	R	13.8	14.5	73.6	62.8	47.0	.75	59.1	60.7	36.9	12.8	33.2	47.2	.60	66.5
850	M	13.2	(1.8)	74.3	61.9	45.0	(2.29)	54.3	64.1	35.1	(.75)	38.3	42.1	(2.26)	70.1
853	MP	13.2	(1.6)	72.2	59.0	50.0	(2.92)	56.1	68.2	41.3	(.74)	44.3	46.6	(2.47)	70.8
856	MP	12.3	(1.5)	71.9	58.1	50.4	(2.45)	52.9	62.6	39.1	(.89)	41.2	50.4	(2.42)	73.7

NOTE.—The rotation followed on these plots is corn, corn, oats, and clover. The soil treatment as indicated is standard, as described in the introduction.

¹Series 800 heavier phase, approaching black clay loam. ²Error in harvesting.

TABLE 72.—URBANA FIELD, SOUTH FARM: CROP YIELDS IN SOIL EXPERIMENTS
BROWN SILT LOAM PRAIRIE¹; EARLY WISCONSIN GLACIATION
ROTATION: CORN, CORN, CORN, SOYBEANS

Plot No.	Soil treatment applied	Bushels or (tons) per acre														
		1903 Corn	1904 Corn	1905 Cow-peas	1906 Corn Soy-beans	1907 Soy-beans	1908 Corn	1909 Corn	1910 Corn	1911 Soy-beans	1912 Corn	1913 Corn	1914 Corn	1915 Soy-beans	1916 Corn	1917 Corn
563	RP.....	40.2	53.7	17.8	77.2	15.0	56.3	33.7	59.3	23.1	62.1	36.8	38.7	20.3	31.5	66.9
566	RP.....	41.6	56.8	20.1	75.6	13.3	57.1	30.0	59.3	23.8	62.8	32.9	38.6	20.0	30.0	67.9
569	R.....	44.2	49.9	13.8	68.1	13.4	55.1	39.0	54.0	21.7	57.6	32.3	38.4	18.8	27.4	59.1
570	M.....	35.8	51.0	(1.19)	73.8	(.78)	54.4	42.4	53.0	(1.45)	65.5	35.4	35.7	(1.60)	32.0	64.5
573	MP.....	42.8	49.3	(1.39)	72.4	(.57)	59.9	40.6	60.3	(1.51)	58.8	40.0	35.3	(1.65)	31.3	67.5
576	MP.....	43.4	49.4	(1.33)	71.4	(.55)	62.1	36.7	56.0	(1.56)	62.9	38.5	37.8	(1.58)	30.4	66.8
		Corn	Corn	Corn	Soy-beans	Corn	Corn	Corn	Soy-beans	Corn	Corn	Corn	Soy-beans	Corn	Corn	Corn
663	RP.....	34.2	41.4	49.5	3.1	66.6	34.3	16.9	23.6	33.2	60.8	32.9	19.5	58.2	31.6	58.5
666	RP.....	28.1	36.2	51.4	2.1	70.0	35.7	18.9	25.6	29.9	59.2	30.9	19.1	62.0	30.3	59.8
669	R.....	28.6	37.3	54.0	2.5	66.6	37.2	18.3	24.6	21.7	48.5	24.2	19.3	52.4	27.5	44.6
670	M.....	30.6	39.1	54.8	(1.35)	67.6	33.7	19.5	(1.93)	30.3	59.0	22.5	(1.58)	61.6	35.7	52.1
673	MP.....	34.4	40.5	54.7	(1.45)	68.3	43.5	22.0	(2.07)	35.2	65.9	33.1	(1.64)	59.9	37.3	60.6
676	MP.....	24.6	32.4	59.1	(1.20)	68.1	41.5	20.6	(1.87)	40.1	67.9	32.7	(1.63)	63.6	33.6	58.6
		Corn	Corn	Corn	Soy-beans	Corn	Corn	Corn	Soy-beans	Corn	Corn	Soy-beans	Corn	Corn	Corn	Soy-beans
763	RP.....	25.7	42.5	48.2	65.4	53.3	39.3	23.8	65.1	43.1	47.6	13.9	41.3	47.6	35.5	18.2
766	RP.....	27.2	51.3	51.3	63.5	60.0	42.5	23.1	66.4	32.3	52.1	16.5	40.3	44.4	37.9	17.1
769	R.....	28.3	34.0	39.0	56.3	57.0	33.9	22.4	56.2	19.9	32.7	14.5	39.2	39.3	30.3	17.9
770	M.....	34.2	35.6	44.3	53.2	52.1	25.4	(1.37)	55.6	18.7	34.0	(.95)	42.1	41.6	27.7	(1.93)
773	MP.....	24.1	38.3	45.2	63.4	60.3	44.7	(1.70)	70.7	27.0	50.7	(1.27)	47.7	47.9	42.1	(1.80)
776	MP.....	22.9	38.4	42.4	64.3	62.0	43.4	(1.67)	70.4	25.0	46.5	(.85)	48.0	52.1	36.5	(2.02)
		Cow-peas ²	Cow-peas	Corn	Corn	Corn	Soy-beans	Corn	Corn	Soy-beans	Corn	Corn	Corn	Corn	Soy-beans	Corn
863	RP.....	.....	1.2	61.6	66.6	55.8	14.8	45.0	57.0	20.7	17.9	54.3	49.3	49.9	11.3	74.7
866	RP.....	.....	.8	64.2	62.8	51.4	13.6	49.0	63.3	17.7	17.8	45.4	46.0	48.2	10.2	69.8
869	R.....	.....	1.3	61.2	62.2	49.6	14.2	47.3	64.7	17.2	14.6	45.3	49.8	43.1	9.8	62.9
870	M.....	.....	(1.0)	62.5	61.0	47.3	(1.07)	49.2	61.9	14.7	(.73)	41.1	47.7	40.9	(1.70)	64.5
873	MP.....	.....	(1.6)	67.2	66.8	54.5	(1.13)	47.9	67.0	26.0	(.80)	45.4	49.2	46.2	(1.71)	71.3
876	MP.....	.....	(1.2)	65.5	66.4	48.1	(1.22)	49.3	63.7	24.1	(.80)	44.7	48.2	48.7	(1.47)	69.4

NOTE.—The rotation followed upon these plots is corn, corn, corn, and annual legumes. The soil treatment as indicated is standard, as described in the introduction.

¹Series 800 is a heavier phase, approaching black clay loam. ²No yields taken.

TABLE 73.—URBANA FIELD, SOUTH FARM: GENERAL SUMMARY

SERIES 100, 200, 400—ROTATION: CORN, OATS, CLOVER, WHEAT						
Serial plot No.	Soil treatment applied	Average annual yields—bushels or (tons) per acre				
		Corn ¹ 12 crops	Oats ¹ 12 crops	Wheat ² 8 crops	Clover 4 crops	Soybeans 6 crops
63	RP.....	59.5	48.3	41.2	.90 ³	17.6 ³
66	RP.....	59.6	47.7	39.8	1.19 ³	17.6 ³
69	R.....	51.7	42.8	30.0	1.23 ³	16.3 ³
70	M.....	56.3	44.8	30.9	(2.14)	(1.24)
73	MP.....	61.0	49.6	41.8	(2.88)	(1.39)
76	MP.....	61.4	49.6	42.2	(2.79)	(1.47)
63	RLP.....	57.6	56.0	46.1	....	16.7 ³
66	RLP.....	57.8	56.8	45.1	....	17.5 ³
69	R.....	47.2	49.3	27.0	....	16.0 ³
70	M.....	54.0	53.3	28.9	....	(1.32)
73	MLP.....	63.6	57.8	47.4	....	(1.51)
76	MLP.....	62.0	49.0	46.9	....	(1.51)

SERIES 500, 600, 700—ROTATION: CORN, CORN, OATS, CLOVER

Serial plot No.	Soil treatment applied	Average annual yields—bushels or (tons) per acre			
		Corn 26 crops	Oats 9 crops	Clover 4 crops	Soybeans 6 crops
43	RP.....	52.6	56.7	1.01 ³	14.2 ³
46	RP.....	50.3	59.3	1.02 ³	14.9 ³
49	R.....	46.5	53.5	.94 ³	13.7 ³
50	M.....	47.3	53.6	(1.90)	(1.44)
53	MP.....	52.6	58.4	(2.55)	(1.59)
56	MP.....	49.2	57.7	(2.34)	(1.50)

SERIES 500, 600, 700—ROTATION: CORN, CORN, CORN, SOYBEANS

Serial plot No.	Soil treatment applied	Average annual yields—bushels or (tons) per acre	
		Corn 35 crops	Soybeans ⁴ 10 crops
63	RP.....	46.5	17.8
66	RP.....	46.7	18.1
69	R.....	41.5	16.9
70	M.....	43.3	(1.41)
73	MP.....	47.9	(1.50)
76	MP.....	47.1	(1.42)

¹Six crops only for limestone treatment. ²Five crops only for limestone treatment. ³One crop of hay. ⁴One crop of cowpeas.

TABLE 74.—URBANA FIELD, SOUTH FARM: CROP YIELDS IN SOIL EXPERIMENTS
BROWN SILT LOAM PRAIRIE; EARLY WISCONSIN GLACIATION

Plot No.	Soil treatment applied	1903 Alfalfa ¹	Bushels of (tons) per acre										1917 Corn			
			1904 Alfalfa	1905 Alfalfa	1906 Alfalfa	1907 Alfalfa	1908 Alfalfa	1909 Alfalfa	1910 Pota- toes	1911 Corn	1912 Soy- beans	1913 Pota- toes		1914 Corn	1915 Soy- beans	1916 Pota- toes
143	MP	....	(1.34)	(6.4)	(2.78)	(2.06)	(3.71)	103.0	60.0	18.8	57.4	43.3	27.2	145.4	86.6	
146	MP	....	(1.34)	(6.7)	(2.43)	(1.86)	(3.55)	83.2	59.3	18.1	58.5	43.0	26.6	155.0	83.6	
149	M	....	(1.23)	(6.2)	(2.28)	(1.81)	(3.76)	80.2	65.0	19.7	59.0	48.5	27.6	162.6	90.6	
150	M	....	(.68)	(5.8)	(2.22)	(1.60)	(3.35)	82.9	63.9	(1.47)	49.7	45.9	(1.85)	173.1	89.0	
153	MP	....	(.71)	(6.0)	(2.79)	(1.99)	(4.01)	113.1	55.2	(1.45)	59.8	41.3	(1.76)	115.1	92.9	
156	MP	....	(.62)	(5.4)	(3.19)	(2.24)	(4.00)	112.2	54.3	(1.42)	81.9	39.3	(1.90)	99.1	85.9	
143	MLP	....	....	....	....	....	....	....	....	17.1	54.9	54.7	25.1	140.0	84.2	
146	MLP	....	....	....	....	....	....	....	....	19.2	44.4	49.9	25.2	139.7	85.2	
149	M	....	....	....	....	....	....	....	....	20.1	54.1	43.9	27.8	165.1	88.9	
150	M	....	....	....	....	....	....	....	....	(1.47)	38.0	52.6	(1.75)	172.0	87.1	
153	MLP	....	....	....	....	....	....	....	....	(1.30)	53.6	57.4	(1.67)	96.6	89.3	
156	MLP	....	....	....	....	....	....	....	....	(1.42)	65.1	55.3	(1.83)	82.5	93.0	
		Sugar beets	Corn	Vetch	Pota- toes	Corn	Vetch	Pota- toes	Corn	Soy- beans	Pota- toes	Corn	Soy- beans	Pota- toes	Corn	Soy- beans
243	MP	(13.4)	59.6	3.5	62.1	57.6	2.9	194.6	57.2	26.0	83.4	40.4	21.9	70.4	38.7	11.6
246	MP	(11.2)	54.9	3.5	69.1	66.3	4.0	194.6	51.2	28.8	63.1	42.7	25.8	63.0	41.1	12.4
249	M	(11.8)	49.0	2.7	71.5	61.0	4.2	172.2	56.7	29.8	79.9	49.3	28.8	68.2	43.2	11.9
250	M	(12.7)	47.9	(1.55)	66.0	62.4	(.80)	168.3	55.6	(2.25)	78.0	49.2	(2.09)	67.6	51.4	(1.16)
253	MP	(14.3)	56.6	(1.76)	49.3	62.0	(.78)	170.9	55.5	(2.13)	77.2	47.2	(1.99)	56.3	55.8	(1.24)
256	MP	(11.3)	57.0	(1.76)	48.0	55.6	(.90)	156.3	51.1	(2.22)	85.1	43.9	(1.97)	60.3	52.9	(1.26)
243	MLP	....	....	....	....	....	....	....	....	24.9	83.3	39.5	20.1	55.7	43.3	11.6
246	MLP	....	....	....	....	....	....	....	....	26.5	63.7	47.4	25.0	57.4	49.6	11.9
249	M	....	....	....	....	....	....	....	....	27.2	67.0	47.7	25.2	66.8	46.3	11.0
250	M	....	....	....	....	....	....	....	....	(1.90)	71.3	41.6	(1.66)	75.3	42.1	(1.00)
253	MLP	....	....	....	....	....	....	....	....	(2.10)	74.9	56.0	(2.05)	51.2	51.4	(1.23)
256	MLP	....	....	....	....	....	....	....	....	(2.57)	92.6	60.0	(2.24)	49.7	55.7	(1.21)

TABLE 74.—URBANA FIELD, SOUTH FARM, Concluded
BLACK CLAY LOAM PRAIRIE²; EARLY WISCONSIN GLACIATION

Plot No.	Soil treatment applied	Bushels or (tons) per acre											1914 Pota- toes	1915 Corn	1916 Clover	1917 Alfalfa
		1903 Corn	1904 Vetch	1905 Pota- toes	1906 Corn	1907 Soy- beans	1908 Pota- toes	1909 Corn	1910 Soy- beans	1911 Pota- toes	1912 Corn	1913 Soy- beans				
343	MP	43.4	(.16)	53.3	93.3	(2.50)	72.5	59.6	19.3	41.1	85.0	13.7	18.5	60.2	(2.91)	(1.07)
346	MP	44.9	(.15)	29.0	82.4	(2.50)	59.2	61.5	22.3	45.3	77.3	16.3	6.0	51.8	(2.89)	(.94)
349	M	41.1	(³)	26.7	95.2	(2.11)	54.6	60.9	22.3	37.6	81.2	12.0	11.1	58.7	(3.07)	(.71)
350	M	40.3	(.37)	34.6	74.6	(2.07)	53.3	62.7	(2.29)	41.6	74.2	(.94)	8.6	63.1	(2.93)	(.84)
353	MP	34.8	(.75)	49.0	88.0	(2.31)	64.6	63.6	(2.39)	36.0	86.0	(1.34)	23.7	58.9	(3.01)	(1.15)
356	MP	35.4	(.92)	58.5	120.7	(2.37)	52.9	66.2	(2.51)	51.5	90.9	(1.29)	31.8	61.6	(3.63)	(1.24)
343	MLP	.....	.....	.....	.....	.....	.....	69.1	22.3	45.0	85.2	16.6	23.9	58.5	(3.20)	(1.07)
346	MLP	.....	.....	.....	.....	.....	.....	64.3	24.8	43.5	94.6	14.8	14.5	58.0	(3.15)	(1.11)
349	M	.....	.....	.....	.....	.....	.....	60.9	28.3	40.9	84.9	14.4	16.6	57.6	(3.40)	(1.16)
350	M	.....	.....	.....	.....	.....	.....	62.7	(2.30)	40.3	86.5	(.84)	17.6	63.9	(3.03)	(1.17)
353	MLP	.....	.....	.....	.....	.....	.....	70.8	(2.44)	41.8	80.3	(1.19)	25.4	63.6	(3.12)	(1.23)
356	MLP	.....	.....	.....	.....	.....	.....	63.4	(2.40)	44.4	83.7	(1.72)	30.0	67.8	(3.40)	(.97)
		Vetch ¹	Pota- toes	Corn	Cow- peas	Pota- toes	Corn	Vetch ¹	Alfalfa	Alfalfa	Alfalfa ⁴	Alfalfa	Alfalfa	Alfalfa	Alfalfa	Pota- toes
443	MP	.....	43.9	69.0	(1.03)	50.7	72.0	.....	(2.97)	(3.34)	.....	(3.89)	(4.28)	(4.00)	(2.02)	91.2
446	MP	.....	49.2	62.4	(1.04)	45.9	76.0	.....	(2.99)	(2.98)	.....	(2.94)	(3.88)	(4.40)	(2.12)	74.1
449	M	.....	56.5	60.2	(.86)	61.6	67.9	.....	(2.34)	(2.56)	.....	(2.59)	(3.57)	(3.88)	(2.17)	105.0
450	M	.....	62.6	60.4	(.83)	64.5	63.7	.....	(2.54)	(2.68)	.....	(3.17)	(3.40)	(4.03)	(2.12)	108.2
453	MP	.....	60.6	67.1	(.81)	70.8	73.4	.....	(3.90)	(3.51)	.....	(4.29)	(4.23)	(4.56)	(2.58)	110.3
456	MP	.....	56.7	68.8	(.86)	67.0	68.9	.....	(3.15)	(3.64)	.....	(3.47)	(3.52)	(4.50)	(2.75)	97.9
443	MLP	.....	.....	.....	.....	.....	.....	.....	(3.74)	(3.46)	.....	(4.52)	(4.41)	(4.09)	(2.34)	96.1
446	MLP	.....	.....	.....	.....	.....	.....	.....	(3.75)	(3.56)	.....	(3.97)	(4.03)	(4.36)	(2.22)	84.9
449	M	.....	.....	.....	.....	.....	.....	.....	(2.93)	(2.94)	.....	(2.92)	(3.90)	(4.24)	(2.30)	100.6
450	M	.....	.....	.....	.....	.....	.....	.....	(2.94)	(2.96)	.....	(3.32)	(3.82)	(3.93)	(2.17)	109.4
453	MLP	.....	.....	.....	.....	.....	.....	.....	(4.01)	(4.01)	.....	(3.59)	(3.13)	(4.38)	(2.97)	108.3
456	MLP	.....	.....	.....	.....	.....	.....	.....	(3.67)	(3.71)	.....	(4.09)	(2.80)	(4.43)	(3.19)	91.3

NOTE.—The rotation followed on these series is potatoes, corn, soybeans, and alfalfa. Alfalfa remains on a division seven years, while the other three crops rotate twice; then alfalfa is shifted to another division. Manure at the rate of 15 tons per acre per year is applied to all plots before potatoes; and rock phosphate and limestone are applied as indicated, at the rate of 500 pounds and 1,000 pounds respectively per acre per annum.

¹Not harvested. ²Not uniform; part of series is brown silt loam. ³Not seeded. ⁴Clipped to kill weeds; no crop.

TABLE 75.—VIRGINIA FIELD, Concluded

Plot No.	Soil treatment applied	Bushels or (tons) per acre															
		1902 Cow-peas ¹	1903 Corn ¹	1904 Oats ²	1905 Cow-peas ²	1906 Corn	1907 Oats	1908 Clover ³	1909 Corn	1910 Oats	1911 Clover	1912 Corn	1913 Oats	1914 Soy-beans	1915 Corn	1916 Oats	1917 Clover
301	0	...	68.0	41.9	(2.32)	84.6	47.2	(3.50)	73.2	59.4	(1.84)	73.6	30.9	10.8	66.2	58.1	(2.00)
302	R	...	65.5	46.6	(2.33)	82.8	41.3	(4.23)	70.2	55.3	...	65.6	31.9	19.8	66.8	45.0	1.33
303	M	...	67.0	41.9	(2.17)	86.3	42.5	(3.36)	74.2	53.1	(1.75)	73.0	32.5	(2.20)	77.6	59.4	(1.42)
301	RL	...	63.5	42.3	(2.16)	73.0	37.2	(3.36)	63.0	46.9	(1.14)	55.6	45.6	17.7	70.8	47.5	1.67
305	ML	...	67.0	36.3	(2.16)	82.0	37.5	(3.36)	64.4	54.7	(1.14)	55.8	10.9	(2.40)	76.2	51.9	(1.23)
306	RLP	...	68.8	40.0	(2.01)	85.9	44.1	(4.17)	64.0	61.3	...	84.0	49.4	21.0	75.8	64.1	2.33
307	MLP	...	68.3	44.4	(1.82)	89.5	39.1	(4.17)	75.4	53.8	(2.19)	85.8	40.9	(2.30)	73.2	60.0	(2.48)
308	MLPK	...	67.3	43.5	(2.19)	84.4	47.5	(4.36)	61.8	45.0	...	87.8	47.2	20.5	72.0	53.1	2.33
309	MLPK	...	75.0	37.8	(2.05)	88.0	41.6	(2.49)	76.6	62.5	(2.63)	88.0	51.6	(2.50)	80.8	63.8	(3.13)
310	LPK	...	66.5	36.3	(2.11)	84.5	36.6	(2.49)	61.8	51.6	(2.30)	86.8	48.8	14.3	73.2	61.9	(2.86)
401	0	...	57.5	67.8	53.1	29.8	67.5	16.3	25.5	49.4	50.1	72.2	18.0	53.8	56.4	36.2	28.7
402	L	...	55.4	66.5	41.0	29.5	59.5	16.3	16.0	36.0	40.0	62.5	17.8	51.0	52.8	37.5	24.8
403	LN	...	52.9	64.3	47.8	32.2	69.9	15.0	24.3	39.6	55.6	85.3	29.2	50.2	63.4	42.2	24.5
404	LP	...	57.3	67.0	48.1	29.8	52.6	12.8	31.3	28.0	38.3	46.9	23.3	51.6	56.6	43.8	33.3
405	LK	...	59.0	63.8	36.6	22.8	50.4	13.1	19.7	22.2	30.7	46.6	17.7	52.6	50.0	27.5	21.2
406	LNP	...	56.1	72.5	46.0	36.0	72.0	12.5	40.0	86.0	60.8	67.2	27.7	58.0	73.6	61.9	39.2
407	LNK	...	54.0	74.5	54.4	30.2	71.3	15.9	24.7	88.8	61.0	83.8	24.7	57.0	69.0	54.1	23.0
408	LPK	...	55.6	65.3	26.9	23.8	38.3	45.6	11.6	22.3	22.2	18.4	14.2	51.2	32.0	39.7	21.8
409	LNP	...	60.2	75.8	53.3	32.7	77.4	15.9	29.3	84.0	61.7	61.9	21.3	52.4	70.4	55.3	32.7
410	NPK	...	57.5	77.5	60.0	30.7	81.5	12.8	31.7	93.0	62.8	58.8	22.5	52.0	67.0	63.1	32.7

GENERAL NOTES.—The rotation on the first three series is corn, oats, and legumes. Phosphorus is applied in 200 pounds of steamed bone meal and potassium in 100 pounds of potassium sulfate per acre. The manure and residues are handled in the regular way, as described in the introduction. In 1902, 285 pounds of slacked lime was applied per acre and no further applications made until 1915, when 4 tons per acre was applied to all series. On Series 400 the rotation is corn, corn, oats, and wheat and is treated as above, with the exception that nitrogen is applied in 800 pounds of dried blood per acre per year, instead of the organic manures. Plots 1, 2, and 3 were above the average when the experiments were begun, owing to some previous applications of manure next to the road.

¹No manure or residues. ²No manure. ³Yields include stubble clover of 1907.

TABLE 76.—VIRGINIA FIELD: GENERAL SUMMARY
FULLY TREATED PLOTS

Serial plot No.	Soil treatment applied	Average annual yields—bushels or (tons) per acre			
		Corn 13 crops	Oats 12 crops	Clover 8 crops	Soybeans or cowpeas ¹ 4 crops
1	0.....	66.4	48.0	(2.36)	(2.37)
2	R.....	68.0	51.3	.35	24.6
3	M.....	72.3	49.4	(2.63)	(2.69)
4	RL.....	62.6	46.9	.50	22.9
5	ML.....	69.2	44.9	(2.34)	(2.60)
6	RLP.....	74.4	55.3	.57	24.9
7	MLP.....	75.5	50.6	(2.91)	(2.62)
8	RLPK.....	72.8	51.7	.48	24.2
9	MLPK.....	76.1	55.1	(3.42)	(2.70)
10	LPK.....	71.7	51.8	(3.11)	(2.44)
FERTILIZER SERIES					
		Corn 8 crops	Oats 4 crops	Wheat 4 crops	
401	0.....	58.1	44.4	25.5	....
402	L.....	52.1	39.4	22.0	....
403	LN.....	65.1	47.6	27.6	....
404	LP.....	51.3	37.9	29.4	....
405	LK.....	46.8	31.0	15.3	....
406	LNP.....	68.9	46.9	25.7	....
407	LNK.....	69.3	52.0	25.7	....
408	LPK.....	42.2	24.1	20.5	....
409	LNPk.....	70.7	46.6	29.0	....
410	NPK.....	71.1	48.7	29.4	....

¹No manure on one crop of cowpeas.

TABLE 77.—WEST SALEM FIELD: CROP YIELDS IN SOIL EXPERIMENTS
YELLOW-GRAY SILT LOAM, TIMBER SOIL; LOWER ILLINOISAN GLACIATION

Plot No.	Soil treatment applied	1912	1913	1914	1915	1916	1917
		Oats ¹	Soy-beans ²	Wheat ²	Corn	Soy-beans	Oats
Bushels or (tons) per acre							
101	0.....	14.4	(.32)	.1	15.6	(1.21)	5.8
102	ML.....	14.4	(.39)	2.5	39.3	(1.86)	32.8
103	ML.....	11.7	(.36)	2.7	36.6	(1.57)	35.8
104	MLP.....	12.0	(.39)	7.4	38.9	(1.68)	41.4
105	L.....	11.7	2.8	2.8	22.4	8.6	32.7
106	RL.....	10.2	3.3	2.3	31.5	11.8	35.2
107	RL.....	10.9	3.4	3.3	35.8	13.8	35.2
108	RLP.....	11.1	3.7	7.9	43.7	16.9	40.6
109	RLPK.....	11.3	4.8	8.8	49.3	18.9	49.2
110	0.....	10.8	3.7	.2	16.8	(.97)	17.2
		Cow-peas ¹	Oats ²	Soy-beans ²	Wheat ²	Corn	Soy-beans
201	0.....	(1.05)	7.3	(.18) ⁴	3.5	25.4	(1.06)
202	ML.....	(1.05)	7.3	(.20)	6.6	40.8	(1.22)
203	ML.....	(.85)	6.4	(.19)	6.2	38.1	(1.03)
204	MLP.....	(.88)	7.0	(.23)	12.6	41.5	(1.21)
205	L.....	(.82)	5.6	.9	5.2	26.3	5.7
206	RL.....	.....	6.1	.8	6.8	33.4	7.5
207	RL.....	.....	5.2	.9	8.2	34.7	8.0
208	RLP.....	.....	7.3	1.6	15.7	49.6	10.7
209	RLPK.....	.....	8.6	1.2	22.7	48.0	10.6
210	0.....	(.94)	6.1	(.09) ⁴	1.7	15.3	(0.46)
		Corn ¹	Soy-beans ²	Oats ³	Soy-beans ²	Wheat ²	Corn
301	0.....	14.8	(.67)	3.9	(1.40)	.0	17.8
302	ML.....	20.2	(.59)	5.2	(.90)	.1	29.4
303	ML.....	17.3	(.67)	4.9	(.90)	.1	34.2
304	MLP.....	12.2	(.64)	5.8	(.98)	.3	34.1
305	L.....	9.9	4.2	5.8	6.4	.1	16.7
306	RL.....	12.8	4.7	.3	8.2	.1	25.0
307	RL.....	12.5	5.8	1.1	8.2	.1	29.5
308	RLP.....	8.7	5.2	1.7	9.8	.1	29.7
309	RLPK.....	14.7	4.9	1.9	13.6	1.2	47.4
310	0.....	12.9	3.9	1.5	(.99)	.0	10.3
		Oats ¹	Corn	Soy-beans	Oats	Clover	Wheat
401	0.....	16.4	5.0	(.40)	13.6	(0)	2.2
402	ML.....	16.6	6.4	(.50)	19.1	(0)	6.8
403	ML.....	19.5	10.8	(.58)	10.5	(0)	10.1
404	MLP.....	17.0	9.4	(.81)	24.2	(.76)	16.8
405	L.....	15.2	5.4	4.5	28.3	.42	11.2
406	RL.....	17.7	10.6	6.7	21.7	.92	12.5
407	RL.....	18.0	9.3	7.4	23.0	.83	13.0
408	RLP.....	7.0	20.5	10.2	22.3	1.17	21.6
409	RLPK.....	12.2	14.2	9.6	30.9	2.17	23.3

¹No treatment. ²No manure. ³No manure; small yield of volunteer oats harvested as hay and included in yields from Plots 1 to 5 and Plot 10, one ton of hay being counted as 25 bushels of oats. ⁴Estimated.

TABLE 77.—WEST SALEM FIELD, *Concluded*

Plot No.	Soil treatment applied	1912	1913	1914	1915	1916	1917
		Cow-peas ¹	Wheat ²	Corn	Soy-beans	Oats	Soy-beans
Bushels or (tons) per acre							
501	0.....	(.44)	9	7.7	(.98)	2.5	(0.33)
502	ML.....	(.41)	3.8	12.6	(1.70)	19.4	(0.77)
503	ML.....	(.46)	5.1	8.6	(1.71)	18.6	(0.71)
504	MLP.....	(.68)	3.8	8.6	(1.53)	20.6	(0.86)
505	L.....	(.66)	3.8	8.4	10.9	15.8	8.1
506	RL.....	....	5.7	12.4	13.2	18.6	7.4
507	RL.....	....	4.4	11.2	12.0	18.4	6.6
508	RLP.....	....	7.8	13.5	12.6	23.4	8.5
509	RLPK.....	....	11.1	17.2	13.2	27.0	8.8

¹No treatment. ²No manure.

TABLE 78.—WEST SALEM FIELD: GENERAL SUMMARY, FULLY TREATED PLOTS

Serial plot No.	Soil treatment applied	Average annual yields—bushels or (tons) per acre				
		Corn 5 crops	Oats ¹ 4 crops	Wheat ² 4 crops	Clover 1 crop	Soybeans 5 crops
1	0.....	14.3	5.8	1.4	.00	(.78)
2	ML.....	25.7	18.1	4.0	.00	(1.21)
3	ML.....	25.7	16.4	4.8	.00	(1.12)
4	MLP.....	26.5	21.8	9.3	(.76)	(1.22)
5	L.....	15.8	19.3	4.8	.42	7.6
6	RL.....	22.6	19.0	5.4	.92	9.3
7	RL.....	24.1	19.4	6.1	.83	9.6
8	RLP.....	31.4	22.0	11.6	1.17	11.8
9	RLPK.....	35.2	27.2	13.7	2.17	12.2

GENERAL NOTES.—The rotation is wheat, corn, soybeans or cowpeas, oats and clover. The soil treatment is standard, as described in the introduction, with the exception that in the beginning limestone was applied to all plots except Nos. 1 and 10. No further applications of limestone will be made to Plots 2, 5, or 6; they will serve to test the value of the initial or of subsequent applications.

¹One crop without manure. ²Three crops without manure.

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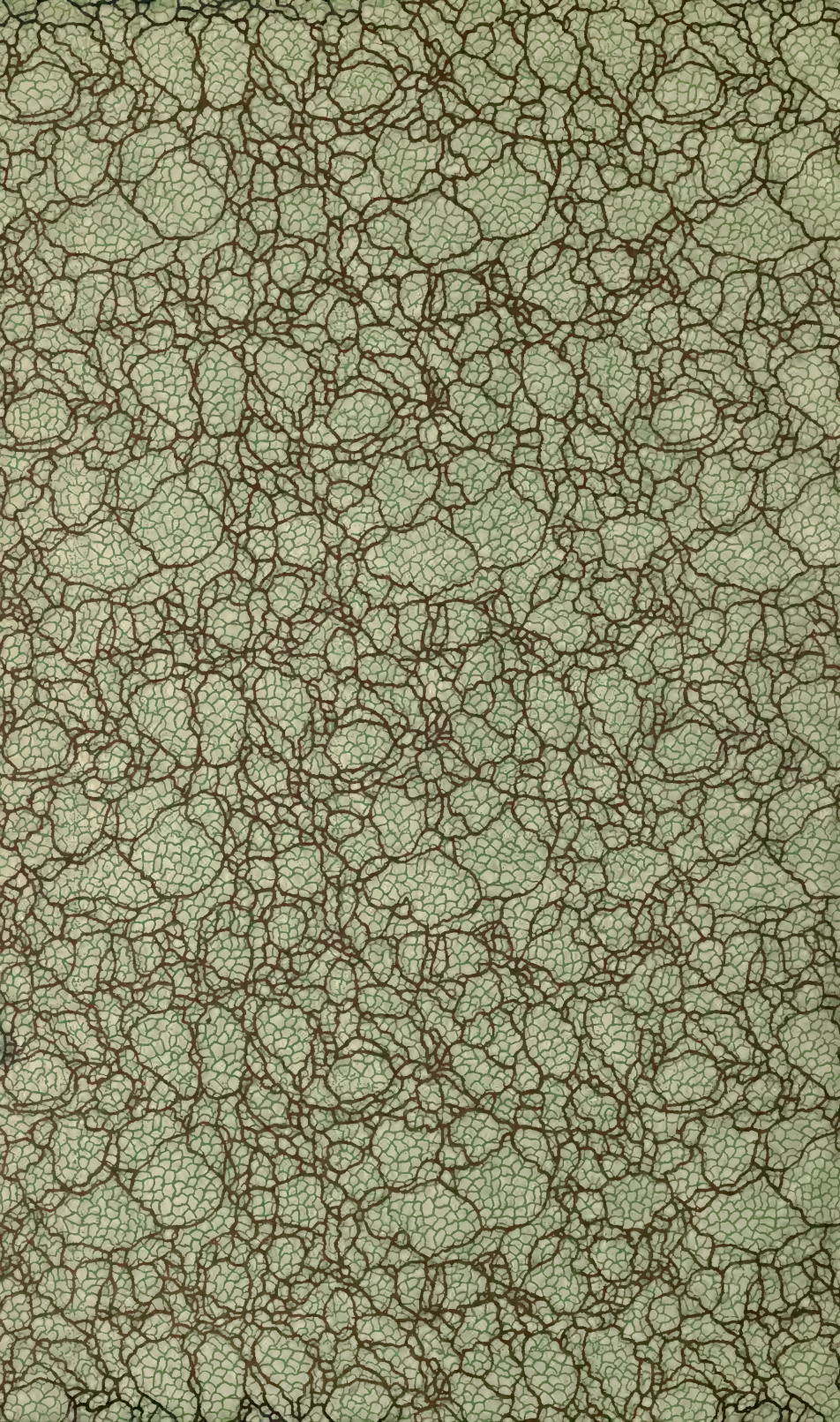
(Fields arranged according to soil types)

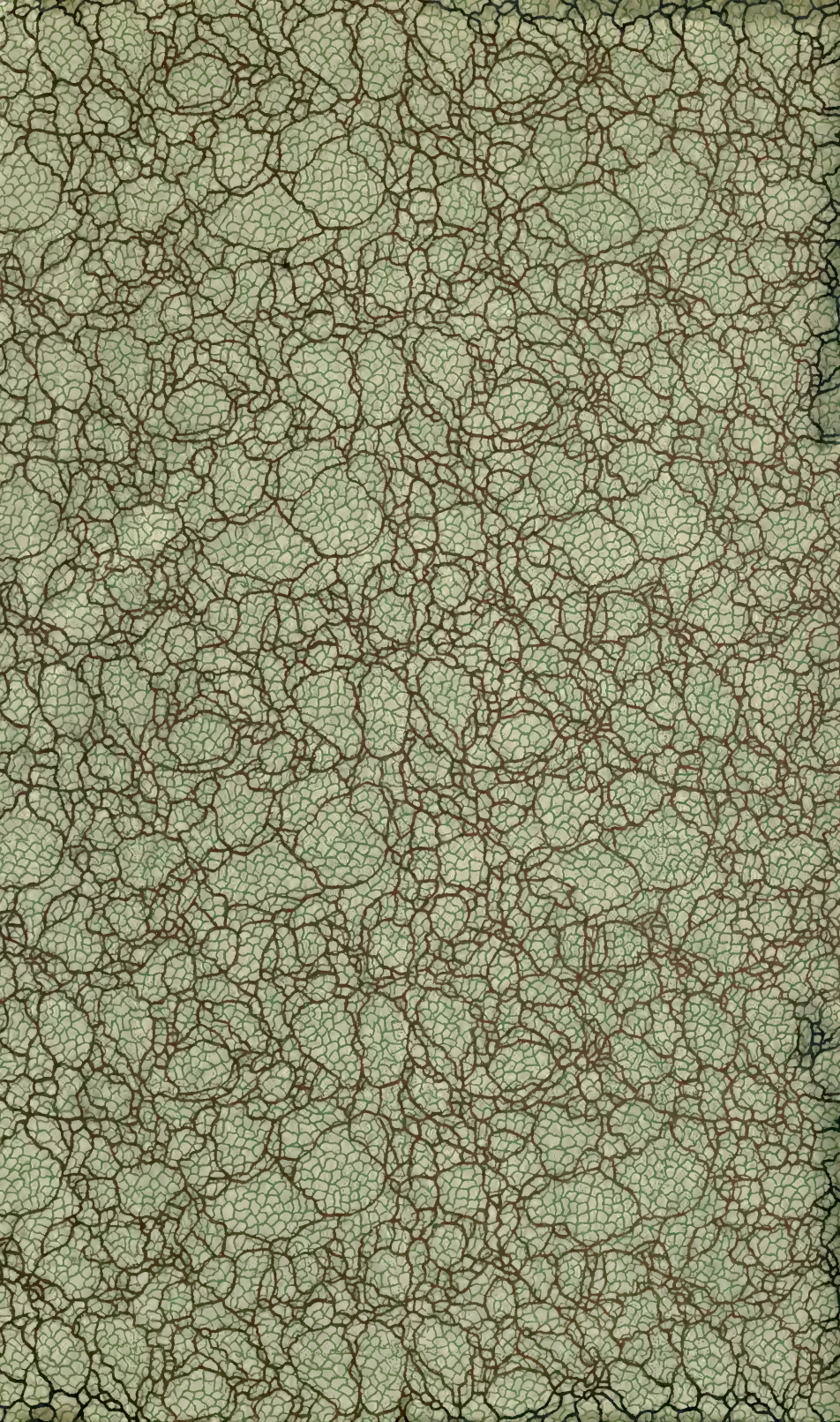
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